1859 FIFTY-NINTH YEAR 1917

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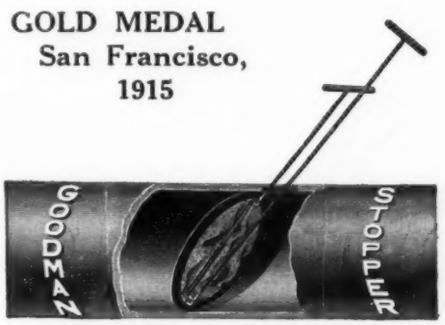

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St. Louis, 1904

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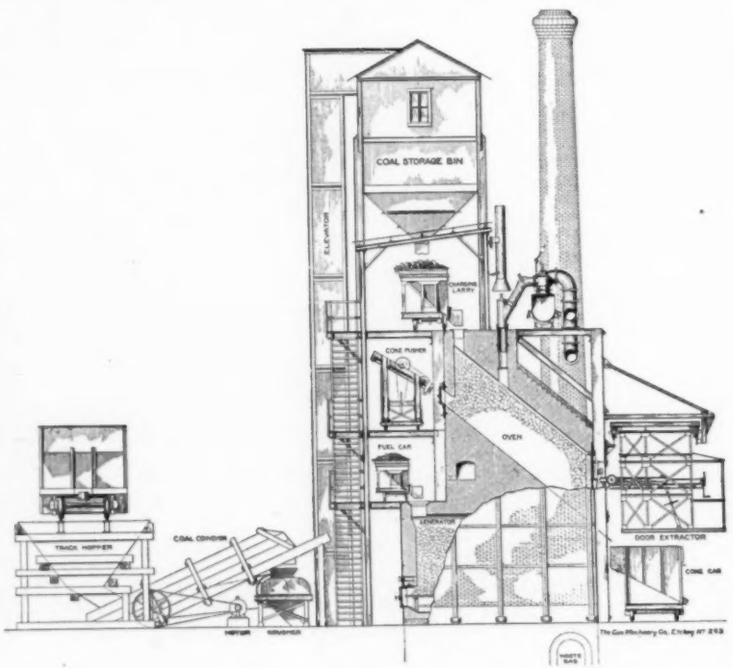

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Country's Best Known Dyeing Establishment Uses Gas for Many Purposes

Though Quantities of Steam are, of Course, Available, 98-Year-Old Concern Finds Gas the Best for Various Heating Operations—Policy of "Buying" Rather than Being Sold to

There are some concerns to whom it appears to be impossible to sell. These concerns have such good buying departments that they always "buy." They are never sold to. This is especially true in the case of services, machinery or commodities of an engineering nature. Such concerns know so well what they require, and operate so efficiently that the best the salesman can do is to take an order. He can rarely make an actual sale.

A dye works does not at first thought seem to be a good place to sell gas. Such an establishment must have a large supply of steam and this steam can be used to do most of the heating. Barrett, Nephews & Company, who operate the Old Staten Island Dyeing Establishment, use a great deal of gas in their plant at West Brighton, Staten Island, N. Y. As a matter of fact they use nearly $5,000 worth of $1.00 gas per year.

Very Old Establishment

This dye works was established in 1819, which makes the business 98 years old this year. One of the features which has been conducive to this long life has been the policy of buying rather than being sold to.

This company did not buy gas as soon as it was offered by the gas company. It experimented with both gas and steam, and selected the form of heat which after careful and extensive experiments proved the most satisfactory.

It has purchased gas from the gas company rather than allowing the gas company to sell it gas. In other words, it has constantly kept so far advanced in the operating features of its business that rarely has it been possible for the gas company to gather information that it has not already gathered.

That the concern is open minded and is always willing to receive suggestions, however, is shown by the fact that it has allowed the local electric company to test out its power plant as often as the sales department of this company desired. This has been allowed in spite of the fact that every test made in the past has demonstrated that electric power purchased from any other plant on the Island will prove more expensive than the power generated at their own highly efficient plant.

The size of the company may be imagined when it is known that it maintains 34 offices in New York City as well as offices in Brooklyn, Baltimore, Philadelphia and Boston. Scattered over the United States from the Atlantic to the Pacific oceans it has over 1,000 agents all of whom ship goods to the plant on Staten Island, at which place all the manufacturing, cleaning and dyeing work is done.

Gas is now being used for heating the following machines and appliances: Calenders, gas irons, gas stoves for heating irons, ironing machines, and ironers, and also for lighting.

Making Window-Shade Cloth

It is possibly in the calender room where one finds the most interesting use of gas heat. These machines are used for calendering cloth used for such purposes as window shades. The rolls must be heated to a higher temperature than has been found to be entirely practicable and satisfactory with the use of steam. No gas burners were found on the market that would give entirely satisfactory results. These rolls must be very evenly heated and the heat maintained at a constant temperature.

The efficiency of the company's engineers is illustrated by the fact that they solved the problem of applying gas heat to these rolls themselves. They have designed and manufactured burners that give perfectly satisfactory results and as far as is known there are no other burners about which this could be said for use on these particular machines.

Gas irons are used in many of the departments, but it has been found that for some of the work the old-fashioned iron heated on a gas stove located on the same table on which the work is being done works better

than a self heated iron. The gas stove does away with the necessity of leaving the working table in order to change irons and the separate iron makes it possible to change the style and weight of irons with the least possible inconvenience.

The lighting is done for the most part with gas. There are, however, a few departments lighted by the electricity generated in the company's power plant. Both open flame burners and incandescent lights are in evidence.

PRESSURE-BURNERS IN USE

The gas burners used are practically all blast burners. An air pressure of about 1½ lb. is carried. In most cases burners designed by the company's own engineers are used in preference to the burners furnished with the appliances. Long experience and many experiments have shown which type of burner will give the most uniformly satisfactory results.

Nearly all the buildings of this establishment are very old brick buildings and they are scattered over such a large area of ground that it requires 1,500 ft. of 4-in. low pressure main from the street service to reach the different buildings where gas is used.

It is not often an easy matter to keep the pressure constant, as the burners of large use are located several miles from the works or a regulating station. The successful operation of gas burners, however, is conditioned upon a constant pressure. There are few consumers who realize this better than does the Staten Island Dye Works.

In order to assure themselves of constant pressure, therefore, this concern has installed a regulator at the meter and has recording pressure gages installed on the gas line. R. W. Latimer, the superintendent of the plant, and the one who is responsible for much of the success of the use of gas, showed charts indicating that the pressure between the governor and the burners continued constant in spite of variations shown by charts taken between the meter and the governor. The great success of this installation of gas appliances would indicate that there are many other installations which could be secured if more attention were given to the type of burner used and the constant pressure of air and gas.

The New York & Richmond Gas Company will soon have a high pressure line in operation to supply this section with gas. This consumer will then probably be able to take the gas directly from the high pressure main through a governor which will insure uniform pressure.

Great Improvements Made in Carbonizing Coal in Past Ten Years

Great improvements have been made in the carbonizing of coal, and particularly during the last ten years, states D. H. Helps, representative of the Institution of Gas Engineers on the British Association Fuel Economy Committee, in his report to the Institution. Compared with the results obtained twenty years ago, the production of gas has increased by about 2,000 cu. ft. per ton; and this, based on the coal carbonized in the year 1913-14—viz., 18,221,000 tons—is equal to a saving of at least 3,000,000 tons per year.

With the further improvements which may be expected, and if Parliament will substitute in all cases a reasonable calorific standard instead of the candle power standard, it is probable that the production of gas will be increased by 500 cu. ft., or more per ton.

British Munitions Director Voices Empire's Debt to Gas Industry

Without the Assistance it Rendered it Would Have Been Impossible for Nation to Have Waged the Campaigns of the Last Three Years

I cannot avoid speaking first of the deep sense that I have of the personal honor you have done me by asking me to be president, not only of one of the most important industrial bodies in the country, but one which has to face a great practical work on which almost the existence of our present civilization rests, declared Lord Moulton, British Director of Munitions and recently elected president of the Institution of Gas Engineers, in an address before that body. It is not often that a person with a history like mine has an honor like that conferred upon him, and I feel, whatever else may have operated, and must have operated, in your going out of your way to give me this unprecedented recognition, that it is at all events intended as evidence of your personal respect and your personal kindness.

But your selection of myself as your president for the next year rests, I am sure, on something far greater and far more permanent than the mere personal respect or kindliness which you may have towards me. It is an indication that you, as an industry, recognize and desire to assert that probably in a portion of its war work of unequalled importance it is the gas industry that has supplied to the country the means of self-defense.

Without the direct aid of the gas industry, and, further than that, the assistance and the knowledge which has been acquired by those who have devoted their lives to it, it would have been perfectly impossible for this country to have waged the campaigns of the last three years, or even for any but a trifling time to have resisted the overwhelming flood of enemies that was poured upon it.

When I was first asked to take charge of the manufacture and provision of explosives it took me but a few days to realize my absolute dependence upon your industry. My appeal to the leaders to assist me was met immediately, and the response was so splendid that, although I have not the slightest doubt that I have been a consistent and untiring tyrant, I have never had a difficulty or any friction whatever with those that represent you.

I have called upon you in your various works to put up extra plant, to vary your methods of production, to alter, I fear, in many ways the financial result of your labors. I trust I have done it so persistently and successfully in the past that I may be able to abstain from future conduct of that kind, and I shall certainly follow the course that I have found so useful throughout this last three years, that the less you interfere with an industry the better it is for everyone.

This response has been so splendid that we have become almost, I may say, affluent where I expected nothing but pauperism, and gradually we have seen ourselves creep up to an equality with the supplies that our enemies have been piling up year after year in anticipation of the war they intended to bring upon us, until now, I think, our anxiety in this department, which at first was probably the keenest anxiety of all, has passed away through your assistance. Therefore, gentlemen, I have a keen sense of the great honor which you have conferred upon me in selecting me as your president, because I think you are entitled to point out to the world how much and in what way the country is indebted to your industry for its safety in this war.

Full Realization is Lacking of Possibilities for Increasing Gas Consumption Represented in the Gas-Fired Water Still

Economy of Producing Pure Water Instead of Buying It Shown—Variety of Stills Available—Diversified Uses of Distilled Water

By GILBERT C. SHADWELL

The subject of automatic gas-fired water stills, is one which has hardly received the wide attention it deserves. Gas used for this purpose forms a steady long-hour load and is alike profitable both from the consumers' and the gas companies' viewpoint. The field for the use of stills is enormous.

They are used in pharmacies, chemical laboratories, and hospitals; in telephone stations, and electric garages where distilled water is required for batteries; in homes, offices and restaurants, for drinking purposes, where it affords protection against typhoid fever; in assay work and the manufacture of mirrors; in hair dressing establishments for washing hair and for endless other purposes.

The distillation of water consists in converting ordinary water into steam which is in turn condensed into liquid form. The object of distillation is to separate the pure water from the various impurities which are dissolved in it. As these impurities do not "distil over" they are left behind and only the pure steam is condensed.

A Simple Form of Still

In a simple form of still the apparatus consists of three parts: the "retort" in which the water is boiled; the "condenser" in which the vapor or steam is condensed and the "receiver" (usually a bottle) in which the condensed pure water is collected.

The retort is usually heated directly by gas or steam or a combination of both. The condenser is cooled by cold water. In laboratory work this is usually a separate supply but in commercial work the same supply as feeds the retort may pass through the condenser if properly arranged. This modification materially increases the efficiency of operation.

The practical arrangement of such stills is explained hereafter in detail.

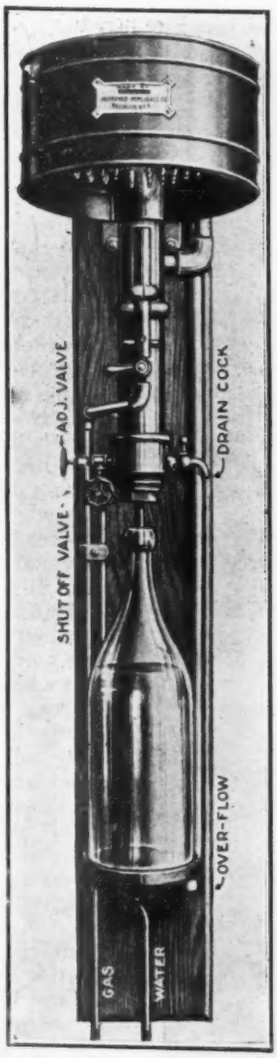


FIG. 1. AUTOMATIC STILL—CAPACITY 12 GAL. PER DAY.

In order to understand the operation of such stills more easily a few words may be given on the heat required to accomplish the work.

If, for example, a still has a capacity of ½ gal. of distilled water per hour this will be equivalent to 4⅓ lb. of water per hour (because 1 gal. of water is equal to 8⅓ lb.).

Now the average temperature of water from the city mains is about 50 deg. Fahr., so that to boil the water will require raising it 212 deg.—50 deg. Fahr. or 162 deg. Fahr.

A British Thermal Unit (B.t.u.) is the heat required to raise 1 lb. of water 1 deg. Fahr., so that in order to raise 4⅓ lb. of water 162 deg. we require about 675 B.t.u.'s, but this is not all, because in order to convert 1 lb. of water at 212 deg. Fahr. to 1 lb. of steam at 212 deg. Fahr. we need 966 B.t.u.'s of "latent" heat.

Hence for 4⅓ lb. we need 4⅓ x 966 or about 4,100 B.t.u.'s more. This added to the 675 B.t.u's gives a total of about 4,725 B.t.u.'s required to distil ½ gal. of water. The actual gas required in such a still as is shown in Fig. 1 is about 10 cu. ft. per hour, so that assuming 600 B.t.u.'s per cu. ft. we consume about 6,000 B.t.u.s per hour in practice as against the theoretical 4,775, which shows an apparent efficiency of approximately 80 per cent.

As a rule, the size of still most in demand is one which will give about 10 to 12 gal. of distilled water per day of 24 hours. If the still be automatic in its action it may be allowed to run day and night without attention.

Fig. 1 shows an automatic still of this kind having a capacity of ½ gal. of distilled water per hour, or 12 gal per 24 hours. The gas consumption of such a still being about 10 cu. ft. per hour, the cost of distilled water per gallon on the basis of $1.00 gas is about 2 cents. The fact too that the user can always be sure that the water is really chemically pure is a consideration which will weigh very heavily.

If required, banks of such stills can readily be installed so as to supply a larger quantity of water.

The distilled water obtained in this way is quite palatable because, owing to it dripping from the still into the bottle or container, it absorbs sufficient air to aerate it for drinking purposes and thus eliminates any tendency toward flatness of taste.

As mentioned above, stills of this size are also in great demand by telephone companies, garages, electrical companies and others for use in supplying chemi-

cally pure water for use in storage batteries, because if there are impurities in the water the batteries may become damaged. There is a lucrative field for the gas company in marketing such appliances.

In every water still the condensation of the steam should take place in a tin lined copper tube, because plain copper or brass is so readily attached.

The one illustrated is automatic, as the water in the retort or boiling chamber is kept at a constant level by the overflow of the cooling water, therefore, as mentioned above, the still may be allowed to run day and night without attention.

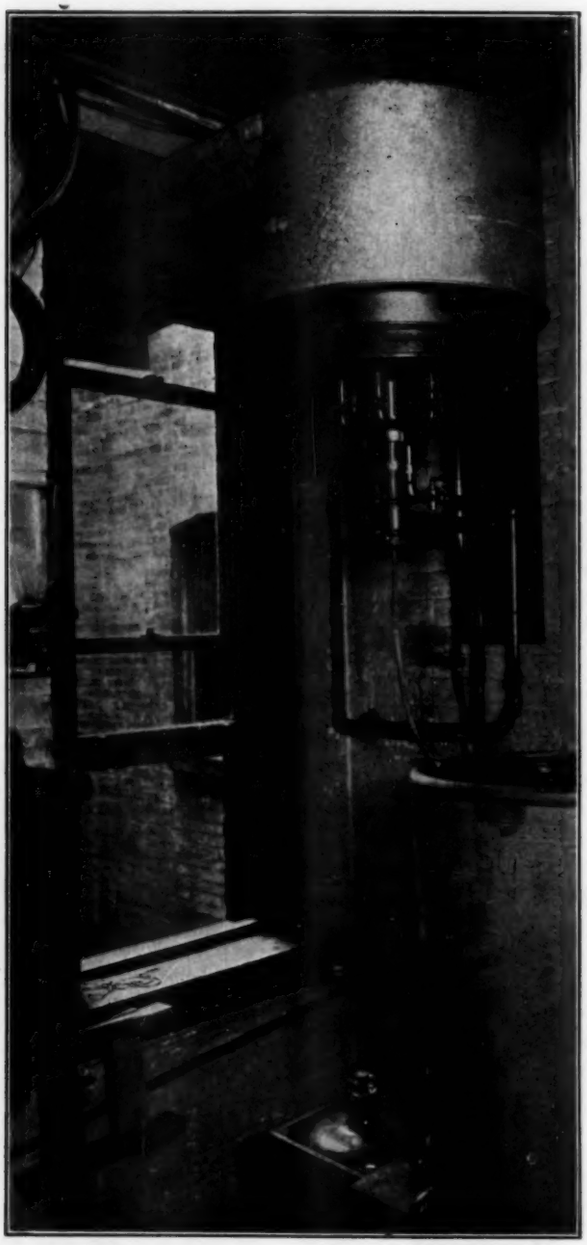


FIG. 2. STILL AT CHEMICAL WORKS INSURES PURE WATER FOR SYRUPS, ETC.

BANKS OF SMALL STILLS AS AGAINST LARGE UNITS

Economy of operation is assured if provision for abundant heating surface is made. In the still shown there is a hood over the retort, and the cooling system is adequate. The latter effects an exchange of heat between the steam and the cooling water, so that the water supplied to the retort is at the boiling temperature. It can readily be seen that a still of this kind may be adjusted to discharge the distilled water at approximately the same temperature as the cooling water.

Although banks of small stills such as the style mentioned above are frequently used when a large quantity of distilled water is needed, large single units are often required. Such units operate on practically the same principle. A still installed in a chemical works for producing chemically pure water in connection with syrups, drugs, etc., is shown in Fig. 2.

A point worthy of notice is the fact that the flow of cooling water should be in the opposite direction to the steam—the water flowing up and the steam flowing down. In this way we obtain the greatest efficiency of condensation.

Where there is an undue amount of sediment in the water a strainer is to be recommended. This can be placed at the inlet end of water pipe and it will, in this way, prevent any interference with the operation of the adjusting valve.

No permit or license is required for an apparatus of this nature as it cannot be used to distil spirits. This is impossible because the boiling chamber communicates with the condensing water.

The cost of operation of a still that is properly designed is exceedingly low, and gas men should bear in mind that the better the still the better will be the efficiency as well as the quality of the distilled water delivered.

It does not pay to use a cheaply-designed still. The theoretical gas consumption on 600 B.t.u. gas is about 13 cu. ft. per gallon of water delivered. In practice we should obtain from about 15 to 22 cu. ft. of gas to the gallon and the cooling water required should run about 5 or 6 times the distilled water delivered.

Yet with some stills the gas consumption will be twice the above figures and moreover the distilled water will be little better than if the original water had been merely boiled.

Distilled water costs anywhere from 5 to 15 cents per gallon and sometimes more.

If a good gas-fired automatic still is used with $1.00 gas a gallon of distilled water will cost only about 1½ or 2 cents.

These points should be put before the consumer and he should be taught to realize that he gets chemically pure water at the actual cost of manufacture.

In this way he can save the difference between this sum and his 5 or 15 cents a gallon, or an average of say 12 cents a gallon.

So that if he uses 20 gal. a day he will save $2.40 a day or about $60 a month—enough to pay the cost of the still and the gas and leave him some money in his pocket!

In order to gain some idea as to the number and variety of stills in common use reference should be made to the remaining illustrations.

Fig. 3 shows an automatic gas water still arranged on a stand in place of a wall fixture. This still has a capacity of 3 gal. of distilled water per hour or 72 gal. per day of 24 hours.

Fig. 4 shows a different style of still of the same

capacity installed (in this case for the U. S. Mint). This is used in connection with assaying.

Again, Fig. 5, on the following page, shows another variety of still having a capacity of 8 gal. of distilled water per hour or 192 gal. per day of 24 hours.

Distilling Cordials

It should be noted that a storage tank which is usually of tinned copper is generallly used in connection with the larger stills. This is used for storing a reserve of distilled water so that this may be drawn off in any quantity when desired.

The use of gas is by no means confined to the distillation of water, as spirits and many other liquids may be distilled if the proper apparatus be used.

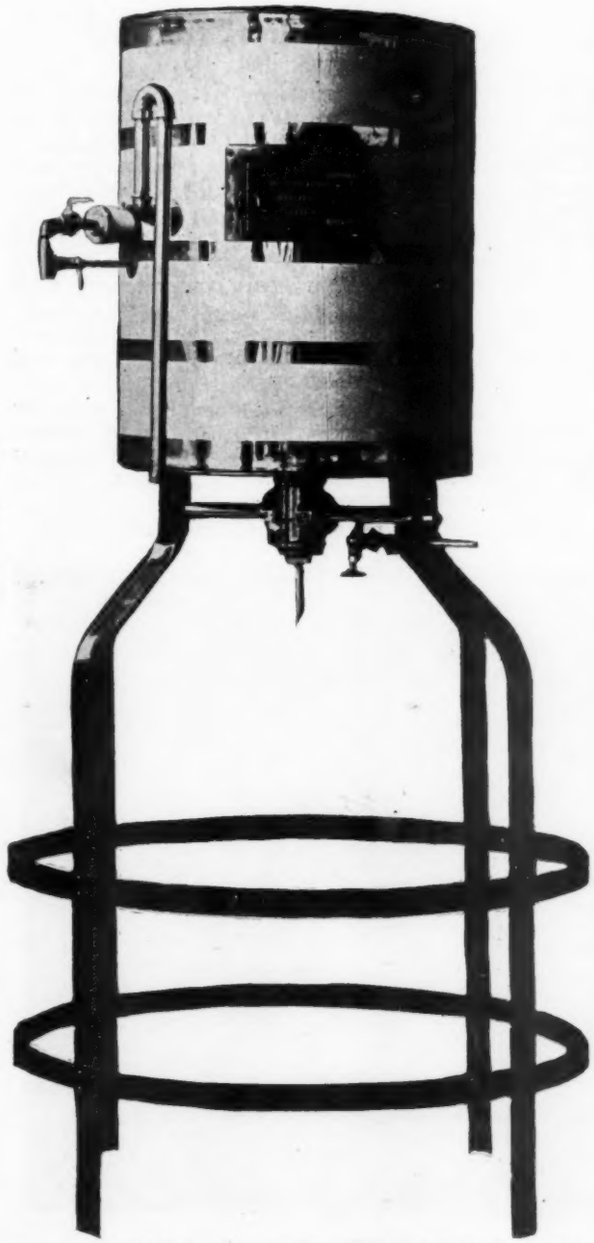


FIG. 3. AUTOMATIC GAS WATER STILL, CAPACITY 72 GAL. PER DAY, WITH SPECIAL STAND

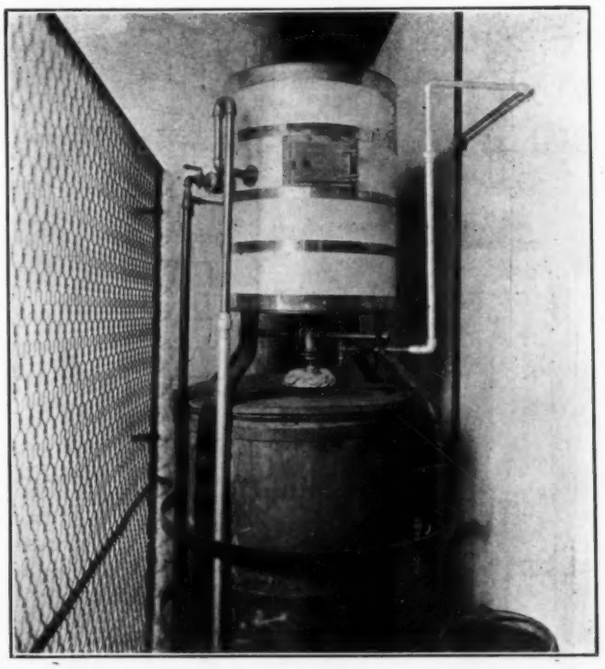


FIG. 4. AUTOMATIC STILL AT U. S. MINT USED IN CONNECTION WITH ASSAYING

Fig. 6, on the next page, shows a special still for distilling a certain Greek cordial or liqueur. Such a still as this is non-automatic and consists of a copper retort containing the mother liquor under which a burner is located.

The spirit comes off at about 70-80 deg. Cent. and condenses in the condenser which consists of a coil in the adjoining vessel—this coil having a circulating water system in operation about it.

The spirituous liquor is then drawn off at the bottom of the condenser.

A word in connection with the setting up of an automatic water still will be of value at this point.

The still should be fastened to a wall or other support at a convenient height to facilitate adjusting and cleaning.

The gas is then connected to the pipe marked "Gas."

The water pipe is connected to the city water or any other supply having some pressure. A uniform pressure is desirable. The water pipe should be thoroughly cleaned of the oil used in the cutting and threading of the connecting pipes—and no paint or cement should be used on the female threads or allowed to get on the inside of the pipe. This is important, as the distilled water will have an oily taste for a day or two if the water has been in contact with any oil.

The drain should be extended the full size of connection, or larger, to a sink or sewer.

Gas companies will find it advantageous to make suitable advance arrangements with a plumber for the water and sewer connections on automatic stills, as in this way installation costs can be materially cut down.

In shutting off an automatic still the gas should be turned off, after which the shut-off valve on the water should be closed, leaving the adjusting valve in adjustment.

The drain cock should be used to empty the still of sediment occasionally if in constant use. This cock draws off the entire contents of the still and should be

FIG. 5. ANOTHER TYPE OF STILL, CAPACITY 192 GAL. PER DAY.

used to empty it if shut down in freezing weather.

To remove precipitated lime salts and scale, it is only necessary to lift off the hood and cast-iron cover, neither of which are attached.

If an oyster shell is placed in the retort, the precipitation will take place mainly upon it, which simplifies the removal of scale. The frequency with which this must be done depends entirely upon the composition of the water used. Ordinarily with fair water the still should not require cleaning more often than once in three months.

Should the water be extremely bad a slight precipitation will take place on the upper end of the condensing pipe. To remove the latter, unscrew the nut at the bottom to which the condensing tube is attached. Replace with a gasket. This operation should not be necessary oftener than once a year under the most unfavorable conditions. The shut-off valve and adjusting valve have packed stems and should any leakage develop at this point, the cap screw should be tightened.

The number and variety of water and other gas-fired stills is very large and the field for these appliances deserves active sales effort.

Men Die of CO Poisoning at Camp Built on Cinder Dump

Death and serious illness in a construction camp in Ohio have been traced, according to Dr. R. P. Albaugh, director of industrial hygiene in that state, to poisoning from carbon monoxide gas generated in a fire beneath the frozen surface of a cinder dump at a steel plant, where the camp was constructed. The seriousness of the occurrence arose from the fact that the camp was well built and ventilated, and the doctors called to the scene could think of no cause for the illness except ptomaine poisoning. It later developed that such poisoning did not occur, and the food and kitchen conditions at the camp were found to be of the best.—*Engineering News-Record.*

The Business Slacker the Most Dangerous of All

Right now the man who allows fear to paralyze the hand he writes checks with is just as dangerous to his country as the deliberate crank who throws a bomb.

The business slacker here at home is our one real enemy—far more of an enemy than the Kaiser, because the Kaiser cannot get at us.

If you cannot thrust a bayonet, you can at least drive your business harder than you have ever driven it before and thus help create the imperative prosperity with which alone this war can be won.

It betrays weak-mindedness to think of diving headlong into a period of panic, penance, abject fear and hysterical economy.

The man who sneaks down and buys a marriage license life preserver is not the worst breed of slacker. Conscription will take care of him. But for the business slacker there is no law but his own conscience.

No matter what comes—

Don't be a Business Slacker.—*Homer McKee.*

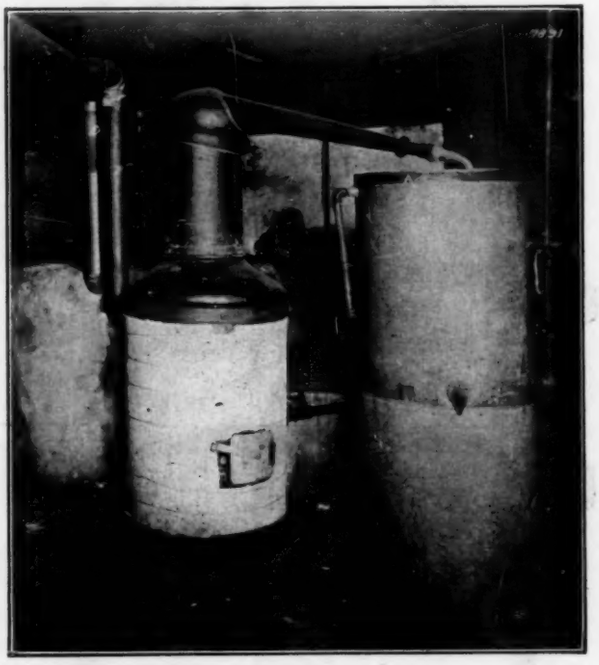


FIG. 6. NON-AUTOMATIC STILL USED IN DISTILLING A CERTAIN GREEK CORDIAL

Figuring on Making Use of Vast Peat Bogs to Help Over Coal Shortage and as Future Means of Conservation in France

With Favorable Market Conditions Existing at Present Peat Bog May Become Veritable Gold Mine if Used for Gas Production, Even Though Operating Expenses are Relatively High

By FRANCIS MILTOUN

Gas from peat (*tourbe*) as one of the mutable laws of nature (and there are many though the school books of our youth never allowed us to think so) may not be very far removed from gas from coal (*houille*), but a country like France needs its output nevertheless. France be it remembered largely imports raw material of all kinds. France moreover has the idea of super-development plus; she saves the apple skins from the cider-press and turns them into both edible and industrial alcohol, and she makes a conglomerate of coal dust and just plain dirt to burn in our not very efficient French stoves and thus encourages us to burn gas when the gas companies will let us have it. The circle is round but in this case it is not a very vicious one. For these reasons France is justified in developing home resources however trivial they may appear to those of a country more generously favored by the things that grow in the soil or are buried in the ground.

Peat has the advantage of being on the surface. "If a kilo of peat will give 4.5 kilos of steam pressure, as compared with coal at 7.5, and will furnish gas, even of a kind, in anything like a similar proportion, why let us have gas from peat," say the French.

French combustible engineers, taking their clue from Nystrom's "*Tourbe et Lignite*" are just now turning their covetous eyes to such peat deposits as exist in France as a means of ekeing out the gas supply which some seven hundred gas companies are now furnishing subscribers throughout France.

20-Mile Stretch of Highways Lighted by Gas

How far short of what it might be, this supply has actually been during the past three years I have suggested before. Looking at it another way the need for gas for domestic and industrial uses is still more insistent in that there are only seven hundred plants in the thirty-five thousand communes of France, and a commune may be one city or a dozen towns and villages. There are thus many big gaps to be bridged.

For any very notable gas development here a new fuel, and if possible a home product, has to be found. We are not up against that problem in America, which makes it all the less explicable that we do not seem to have so intensively worked the field for gas lighting for street and highway as they have here. This is no hyperbolic exaggeration for there is a stretch of twenty miles or more out from Paris along one of the great historic *Routes Nationales* leading to the Swiss frontier where gas lamps light your way as they do on the *Grands Boulevards*.

The time has long since passed when a Paris gas company paid the equivalent of ten dollars to who ever would bring it a new customer; or if the subscriber introduced himself, make him a present of the first hundred cubic meters. They used even to loan you gratis a gas radiator or cook stove. Now they charge a monthly rental, and for the moment will not, for any price, even allow a new connection to be made. There are modern flats in Paris occupied since the war where no gas connections have as yet been made. This is a *force majeur* situation and is in no way to be criticised, simply made a note of.

To-day there is not gas enough to go around; practically two-thirds of the former annual coal supply from whatever source, home mined or imported, has been found wanting. We did very well the first winter—the private consumer—less well the second winter and not at all well the third winter. But the gas companies did wonders, at least played their parts with distinction by doing their bit under heartrending conditions.

There are some fifty thousand odd hectares of known and exploitable peat bogs in France, say 125,000 acres, susceptible by proper reduction of giving a commercially satisfactory return in gas, with only 8 per cent of ash. Of this area that of La Grande Brière around Saint Nazaire owns to approximately 25 per cent. The last production figures per annum for this specific deposit show 58,500 tons at a cost of $2.43 per ton.

Yields in Coke

The entire production of France probably did not exceed a hundred thousand tons previous to the war, but it is known that there are many likely areas which can be exploited and it is hoped to bring the production up to half a million if its products and by-products can be successfully used. Peat moreover lies practically on the surface and does not require either expert mining labor or complicated machinery. At all events for the supplies that are waiting to be dug from the ground at Saint Nazaire there is practically no freight to pay for it will mostly be used practically on the spot.

The exploitation of peat gas in Europe has been largely heretofore the product of the Ziegler and Korting furnaces of German origin and manufacture, but since the war these establishments, with their branches in half a dozen French cities, have been under sequestration.

Normally the dried peat furnishes, by either one or the other of the process mentioned above, 25 per cent to 35 per cent of coke and 45 per cent to 50 per cent of coke and demi-coke, the gas production being more than largely sufficient for the fuel needs and as refined and purified of the slight goudron and ammoniacal elements quite suitable for use in a gas engine, the piston heads and valves being no more likely to coke up therefrom than from low grade petrol spirit.

Monsieur Louis Renié, a French gas production engineer who has investigated these local deposits, estimates that operating expenses in France are relatively high, but will be entirely recovered even in normal times

with a lowering of prices and with the favorable market conditions of the present a peat bog properly exploited may become a veritable gold mine.

Roughly the above suggests the grand lines of a new gas exploitation in France. They came to the surface, like copper in the streets of Butte in the early days, in spite of the war, not necessarily because of it; for the conditions which permitted the tracing of them existed all the while.

Deposits Probably Not Charted

It is not known that all the French *tourbières*, or peat-bogs, are charted, indeed one suspects that they are not, since the question has recently been brought up in the Chamber of Deputies. The French government is centralized, remember, and if you want to exploit a peat-bog in your own back yard you come under the regime of the national mining laws. This is not governmental socialism, however foreign it may be to our ideas, and what with the regulations which the Land of the Free is putting into force these days, and ought to put into force, there seems no question but what we are all coming to run a modern government on pretty much the same lines.

States Rights in France plays no part in the general order of things for the good for the greatest number. There may be pork-barrel legislation of a kind, as it is claimed there has been in the matter of coal distribution these last days, but it has been the issues of war that has brought about the inconvenience.

It would be unfair to say that the gas companies had not done their part just because in several instances they have said they would shut down, even if they could get coal at the ruling market rates, including the high cost of transport, unless they be allowed to raise their prices to the consumer. You cannot get blood from a turnip nor gas from a corporation, even if that corporation possesses a soul, if the return in cash is but four cents for the unit of measured gas supplied when it costs six cents to make.

Possibility of Early Developments

Back to the peat bogs: With the parentalism of a liberal French government to encourage individual effort to develop a new industry a peat bog may yet shine, in France, like millions of candle-power, if not blossom like a rose.

The encouraging part of it all is that as I write a Project of a Law is already before the French parliament, and if there is not too much lobbying, for or against, the porcelain factories of Limoges (six of these by the way are American) and the cartridge factories of Nantes and Saint Nazaire may, before the end of the war, be working with nature's own fuel in its doubly concentrated form, rather than sending most of their combustible up their chimneys in smoke and uncaptured calories.

The French used to have an expression: "It is to see." Now they put it: "It is to do." They have been doing things lately.

120 Oil-Washing Plants at Work Among British Gas Companies

There are at the present time some 120 oil-washing plants at work at British gas works, and about 70 more will, before long, come into operation. This number includes nearly all the largest gas works in the country, with the exception of those where conditions are unfavorable.

Adopting Department Store Methods Increases Show Room Sales

W. M. Halsey Contends, However, That Gas Company is More Favorably Situated Since Its Prospective Customers Come to It as a Matter of Routine While the Department Store Must Advertise and Offer Inducements to Bring Them

It has been apparent to many in our organization for some time past that greater effort should be put forth to build up a strong selling force in the gas company office where often the opportunity presents itself for demonstration and sale of gas consuming appliances, since many of our people come regularly to pay bills at the Cashiers' Department; or to leave orders for meters, etc., and this is a very good opportunity to approach them on purchasing our wares, declared W. M. Halsey, of the Public Service Gas Company, in a paper presented at the convention of the New Jersey Gas Association.

It was probably a lack of attention to this opportunity that first brought to the writer's notice the fact that merchandise could be more prominently displayed; hence could be more readily sold to those who come into our office regularly, and seldom purchased on account of improper methods used to attract prospective customers.

Department Store Methods

Looking about in other retail establishments it was very noticeable that window and interior displays were being given a great deal of study by those stores where competition was keen, and the busy store was found to be the place where the newest ideas were in every day use.

One distinct advantage our local gas company seemed to have had over the department store was, that by large daily expenditure for newspaper advertisements the stores drew crowds of people in answer to special sales of merchandise where, in nearly all cases, the materials advertised were sold at a reduced price; whereas, in our show rooms we were having thousands of people come into the office every month without advertising to call them there, and as a start to interest such prospective customers we set about to make our department of merchandising as attractive as possible.

In the districts where it has been possible for the writer to look over the salesroom displays and the sales results from the efforts put forth in this portion of the business, it has been apparent that where the sales room displays are kept seasonable, clean and attractive demonstrations are carried on, that there have been excellent records made in office floor sales results, which proved the fact that real efforts made to interest prospective buyers in first class merchandise, properly shown and priced, would always pay the cost of using ability along this line.

Approved Appliances

The methods of display used to-day should conform or correspond with the large retail department stores in our cities, and many of their practices will be found to assist in our show rooms and window displays.

The question may be asked, is there any reason against the plan of every gas office making a determined

effort to properly place on exhibition only the best approved gas appliances known to-day? The answer should be, it is lack of real service due our gas customers when we fail to give them an opportunity to see for themselves what commodities are to be had for their convenience. This, with our added knowledge of the gas service we sell, should act as a guarantee to the public that dealing with us in the purchase of appliances would be satisfactory and economical.

One of the important features of a sales room is to show as large an assortment of goods as space will permit. This gives every customer an opportunity to select what pleases their requirements both as to price and adaptability for their uses and by having on hand a complete line of articles it affords greater chance to attract a prospective purchaser, where a smaller stock on hand might lose the sale.

Care in Selection

Of great importance is the right selection of merchandise by the buyer of the department, who must be in close touch with the needs of the community. As good buying in wholesale assortments is of great importance to any retail store, the success of merchandising is buying right. Many a retail store has a weak department because of the lack of a proper purchasing agent—one who fails to shop about for proper saleable goods.

The second duty a buyer owes his company is to order the proper quantity for his selling season and many a lost customer for all time, has been due to underbuying of saleable stock.

The display of merchandise is one of the feats of selling and a well thought out plan for keeping the sales people and prospective customers alive to the fact that you have a good line of merchandise is to change the character of your displays as often as the local conditions will warrant. As an example: Take one gas company office where thousands of people come to pay their monthly bills and to leave orders for meters, etc., it is essential that a change about of all the moveable goods take place regularly. In such a situation it is good policy to liven up the showroom once each week, just as it is the custom to change window displays.

Results

In checking results obtained covering a period of two years where the plan of frequently changing the display of merchandise had been followed it was found that the percentage of sales had increased materially and in the year 1916 over 53 per cent of merchandise sales were made by the sales floor representatives, the report of merchandise sales for the year 1915 sold direct from the floor was 48 per cent of the total sales, and the results for the year 1914 were 40 per cent of floor sales to the total sales. The results for the final six months of the year 1916 were in the New Terminal Building, Newark, and represent office sales made in a location on what would ordinarily be termed the "Bad Side" of the street for a retail store. But the reverse to what many had expected would take place "did happen." Business was better and our merchandise sales have shown an increase every day since we located in the new building.

It may be interesting to know that in the plans for our new sales room it was provided that the General Order Department, Duplicate Bill Department, Consumers' Deposit Refund and Cashiers' Department were all placed in the rear of the sales room, so that the general public might view our appliance exhibits and be shown by our demonstrators new appliances as they passed through the sales room on their way to pay bills or leave orders, and our sales force have been awake to the opportunity to interest these prospective customers.

Adding a Seasonable Touch to Displays

It should also be considered good policy to add a seasonable touch to the wall or column decorations, such as seasonable flower displays; Easter time a floral display; at Christmas, greens and holly; and likewise on other special events.

Appliances properly demonstrated on the sales floor have always been a source of satisfaction both to the purchaser and to the training employees who offer these articles for sale elsewhere, and it is recommended that such work be carried on as frequently as possible in all situations.

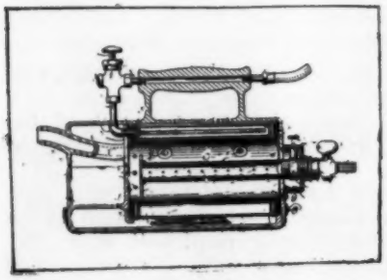
Appliances shown on the sales floor should be carefully set up to conform as nearly as possible to the conditions that they will be used in the home, store or factory, as an improper setting of show room display may counteract sales of merchandise.

War Conditions Reveal Imperfections in London Sliding Scale

War has cast a searching light on many things, and shown them in a different aspect from that in which they usually appear. The sliding scale is one of the conspicuous examples asserted A. E. Broadberry, in his presidential address before the Institution of Gas Engineers (British). When times were normal, and the world war unthought of, the sliding scale appeared to be more or less perfect; but under war conditions its effect has been very harsh on gas shareholders. War was not their fault. War brought them burdens of their own, in high prices for their own requirements; but it also brought them the double burden of increased cost of gas production, which not only put up the price of gas and reduced their dividends and so gave them less income to pay for the increased cost of living, but it also reduced the capital value of their shares. It is doubtful if things will ever be as they were; and therefore the time may come when in new Bills of Parliament the balance should be adjusted by the standard price under all sliding scale companies being advanced. But the time is not yet. It cannot be done in war time. How much of the disadvantage is permanent can only be known when the immediate and temporary effects of the war are passed.

Perhaps the sliding scale motive has proved a myth in another way. It produced the desire to economize in every way, and perhaps that may in a measure account for the inadequate pushing and support of expenditure for research and investigation to which allusion has already been made. In some cases it is said to have had the effect of unduly restricting wise expenditure on upkeep and on a safe margin of reserve plant. Unfortunately, it has that tendency. It is easy of proof that a shilling saved to-day costs two shillings to-morrow. Necessary extensions delayed a year too long to save a year's interest may eventually cost more to the consumer and shareholder. At present the sliding scale fetish is under suspicion, and unless it can establish its position in after-the-war conditions, it may prove to be quite a false god.

Patents Pertinent to Gas Industry



Tailor's Appliance Uses Gas to Generate Steam

Patent No. 1,218,639; described in Patent Office *Gazette*, March 13, 1917, page 396. George Franks and Oscar Sproessig, New York, N. Y. Filed Nov. 4, 1916. Serial No. 129,425. (Cl. 68-26.)

This steaming, cleaning and pressing apparatus consists of a two-part casing with a steam generator mounted in the casing. A gas burner supplies the necessary heat to the steam generator.

Blast Furnace Gas Preheated Before Entering Blast Ovens

Patent No. 1,219,852; described in Patent Office *Gazette*, March 20, 1917, page 750. Otto Oesterlen, Zweibrucken, Germany. Filed April 1, 1915. Serial No. 18-630. (Cl. 266-14.)

The method of preheating the waste gases from blast ovens for utilization in hot blast ovens consists in filtering the waste gases, burning a portion of the waste gases, before and after filtering, or both, and passing the products of combustion through preheaters through which the main volume of waste gases, either filtered or unfiltered, are conducted.

Acetylene Apparatus Consists of Curved Hopper Inside of Generating Chamber

Patent No. 1,220,528; described in Patent Office *Gazette*, March 27, 1917, page 1026. Henry H. Moreton, Stony Point, N. Y., assignor to Universal Lighting Systems Corporation. Filed Aug. 15, 1914. Serial No. 856,993. (Cl. 48-4.)

This acetylene generating apparatus consists of a generating chamber with a water reservoir directly above. The carbide hopper extends through the water reservoir and into the generating chamber. The hopper is curved at the end, this forming a small receptacle for holding a small amount of carbide. Grids, closing the mouth of the hopper prevent the carbide from falling out. Water trickles between the mesh of the grids upon the carbide held in the curve of the hopper, this generating the acetylene.

Hydrocarbon Burner Produces Whirling Flame

Patent No. 1,219,365; described in Patent Office *Gazette*, March 13, 1917, page 551. William Thomas Wood, Nashville, Tenn. Filed Nov. 29, 1915. Serial No. 64,018. (Cl. 158-53.)

This article comprises an open topped bowl-shaped burner casing, having a fuel vaporizing chamber located in the casing. Fuel is supplied to the chamber, the vapor formed being forced into the burner, which produces a whirling flame.

Lid Fits Over Burners to Prevent Scorching

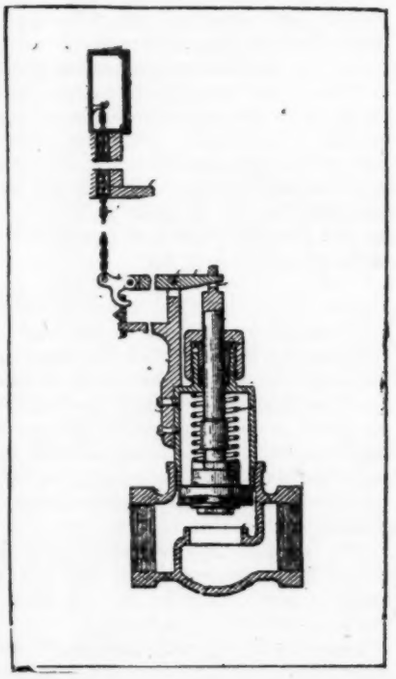
Patent No. 1,219,014; described in Patent Office *Gazette*, March 13, 1917, page 431. Walter C. Lindemann, Milwaukee, Wis., assignor to A. J. Lindemann & Hoverson Company, Milwaukee, Wis. Filed March 20, 1915. Serial No. 15,682. (Cl. 126-215.)

The lid has a number of radial ribs spaced to form heating passages. Other ribs extend transversely from the first mentioned ribs.

Curb Cock Provided with Clamp Nut and Integral Buffalo Box

Patent No. 1,215,250; described in Patent Office *Gazette*, 2-6-17, page 268. Frederick H. Cassidy, Randolph, Mass. Filed Jan. 25, 1916. Serial No. 74,261. (Cl. 137-13.)

The body of the cock is cast with an internally threaded flange around the aperture which receives the plug. A clamp nut, with a screw threaded outer periphery, operates on the threads of the flange and is screwed down against the outer end of the plug, and holds the plug in its bearing in the body. The outer end of the plug, or barrel is provided with a polygonal recess to receive

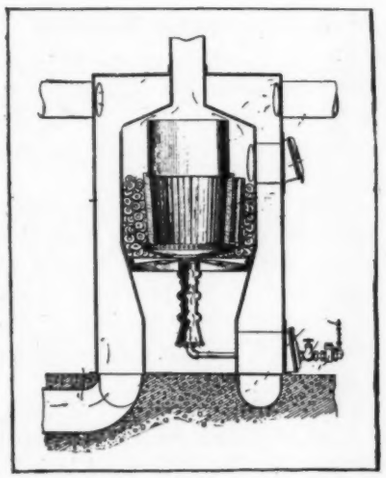


the head of a suitable wrench. The inner periphery of the clamp nut is also polygonal in shape to receive the head of a wrench. A pipe is screwed to the valve body and extends to the surface of the ground, and is provided with a removable cover. When the cover is removed a wrench operates the clamp nut and the plug, or barrel, of the cock.

Automatic Cut-Off Valve Operated by Spring

Patent No. 1,218,729; described in Patent Office *Gazette*, March 13, 1917, page 330. Edwin C. Weisgerber, Pittsburgh, Pa., assignor to Equitable Meter Co., Pittsburgh. Filed Jan. 31, 1916. Serial No. 75,355. (Cl. 137-92.)

In this automatic cut-off a spring tends to force the valve disc against the seat. A lever is pivoted to the body of the valve, one end of the lever being in engagement with the valve stem, the other end being secured by means of a fusible link to a projection of the valve body. By this means the spring is held in compression and the valve remains open. Should the fusible link melt, the spring forces the valve disc to seat, thus closing the valve. The mechanism may likewise be operated by manual means.



Hot Air Furnace Heated by Gas

Patent No. 1,217,551; described in Patent Office *Gazette*, 2-27-17, page 1208. Robert R. Armor, Los Angeles, Cal. Filed June 12, 1916. Serial No. 103,302. (Cl. 126-99.)

In the center of this furnace is a fire box with an air circulating chamber surrounding the fire box. A horizontal circular burner with a gas mixer is placed in the fire box. The flame from the gas burner burns in a horizontal plane, coming into contact with heat absorbing elements through which the flame passes in its upward travel.

Carbide Feeding Mechanism for Acetylene Gas Generator Operated by Self Contained Gas Holder

Patent No. 1,218,844; described in Patent Office *Gazette*, March 13, 1917, page 373. Warren E. Dressel, Edwardsville, Ill. Original application filed Feb. 27, 1915, Serial No. 11,012. Divided and this application filed May 8, 1915. Serial No. 26,888. (Cl. 48-52.)

This acetylene gas generator consists of an outer shell with a gas generating chamber at its lower end. A vertical carbide containing receptacle is also mounted within the shell, above the generating chamber, and discharges into the latter. Also contained in the shell is a small gas holder, gas passages leading from the generating chamber to the holder. A rotatable valve operates in the opening leading from the carbide holder to the generating chamber, the stem of this valve being revolved through the motion of a lever, one end of which is fastened to the shell, the other end being attached to the gas holder by a chain. A worm gearing is attached to the stem of the valve so that the rise or fall of the lever transfers the necessary rotating motion to the valve.

Well-Drilling Bit Provided with Auxiliary Cutting Edges

Patent No. 1,218,671; described in Patent Office *Gazette*, March 13, 1917, page 308. George Lorenzo Lane, Williamstown, W. Va. Filed Aug. 1, 1916, Serial No. 112,515. (Cl. 255-73.)

In addition to the main drilling point, this drill is equipped with two parallel rigid webs of less width than the main body and which project from the main body. Each of the webs has an outwardly flared cutting point serving to form an undercut effect in the operation of the tool.

Pipe Cutter Provided with a Number of Individual Cutting Edges

Patent No. 1,215,121; described in Patent Office *Gazette*, 2-6-17, page 223; Morris Cramer, Cleveland, Ohio. Filed Oct. 20, 1916. Serial No. 126,782. (Cl. 81-189.)

The cutter disc is provided with a number of individual cutter teeth, each with a cutting point and a depth limiting heel. The cutter disc may be locked in various positions, and means are provided for feeding the cutter into the pipe, too rapid feeding being prevented.

Attachment Limits Inward Movement of Cutting Tool

Patent No. 1,215,120; described in Patent Office *Gazette*, 2-6-17, page 222; Morris Cramer, Cleveland, Ohio. Filed Sept. 28, 1916. Serial No. 122,621. (Cl. 81-189.)

Cutter is substantially the same as a one wheel cutter. In addition to the regular method of screwing down, a spring directs the cutter to the pipe, while an additional member limits the inward movement of the cutter by engaging the metal ahead.

Acetylene Burner Composed of Several Parts

Patent No. 1,215,153; described in Patent Office *Gazette*, 2-6-17, page 233. George W. Hopkins, Cleveland, Ohio, assignor to the Acetylene Stove Manufacturing Company, Cleveland, Ohio. Filed May 26, 1913. Serial No. 769,792. (Cl. 67-96.)

Mounted on the pipe which conveys the gas to be burned in this acetylene burner is a chamber provided with a number of restricted orifices. A delivery cap surrounds the chamber, an orifice being provided in the top of the cap. A mass of heat conducting material is applied at the junction of the chamber and the cap.

Carbon Dioxide in Flue Gases Determined by Vacuum in Cylinder

Patent No. 1,223,953; described in Patent Office *Gazette*, April 24, 1917, page 1134. Arvid Frisak, Woodbury, N. J. Filed Jan. 6, 1917. Serial No. 141,000. (Cl. 23-3.)

This carbon dioxide apparatus for flue gases consists of a cylinder containing a caustic soda solution. A stopper closes the upper end of the cylinder, the gas inlet and outlet projecting through the stopper into the cylinder, the former terminating near the upper end of the cylinder. The outlet tube terminates slightly above the liquid. Pinch cocks are used to cut off the flow of gas. A U tube has one end projecting into the cylinder, the other extending into a mercury container. The percentage of vacuum created in the cylinder is indicated on the scale.

Patent Granted for Surface Combustion Apparatus

Patent No. 1,222,922; described in Patent Office *Gazette*, April 17, 1917, page 744. Also patents Nos. 1,223,248; 1,223,349; and 1,223,308, on pages 854 and 874. William Arthur Bone and James William Wilson, Leeds, and Cyril Douglas McCourt, London, England, assignors to Radiant Heating, Limited, London, England. Filed July 11, 1912. Serial No. 708,852. Renewed Sept. 8, 1916. Serial No. 119,139. (Cl. 158-117.5.)

The process consists of burning explosive gaseous mixtures, by causing the mixture to flow with a velocity less than the normal speed of back firing of the mixture. The mixture passes through a porous and permeable refractory diaphragm to a highly heated surface layer. Combustion of the mixture takes place within the highly heated surface layer of the diaphragm, back flashing being prevented by the cooling action of portions of the diaphragm through which the mixture flows on its way to the combustion zone. By this method the combustion is localized within the surface layer of the diaphragm, which is maintained in a state of incandescence.

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The Hundred and Seventh Volume

Too much credit cannot be given to the industry itself, and to the co-operation of gas men generally for the success this journal has attained during the fifty-eight years of its existence. Particularly has this been the case during the past twelve months.

Changes are taking place rapidly in the gas industry. Many new lines of development have reached a point where it taxes the facilities of the journal to adequately fulfill its mission. It has been able to approach success in this particular only because of the whole-hearted co-operation of a large number of its readers.

To properly serve the field we require criticisms, suggestions, leads as to accomplishments that have been attained and developments that have occurred in individual localities, yet which carry a lesson to the field, and widespread contributing of articles—both short and long.

To a gratifying degree many gas men have exerted themselves considerably to aid us in providing them an adequate journal. If every subscriber did likewise—felt that the quality and character of the journal was of direct, vital interest to him—the degree of value it could attain for him would be immeasurable.

In this regard we have particularly in mind, an engineer high in the councils and confidence of the industry—not even a resident in the city of publication—who has been our most consistent critic, and we might add a most valued friend. Because he has been desirous of having the aid of an adequate and entirely accurate gas engineering journal and news medium, he has apparently added, to what must already be arduous duties, that of reading regularly, intensively and critically each issue of the journal as it came to him.

His criticisms have ranged from inaccurate statements in news items to ambiguities in style and even to the wording of advertisements.

Whatever have been his motives; whether his efforts were prompted by public-spiritedness, friendship for the journal or some other cause; he has, during the past year, contributed greatly towards making the journal of greater real value to every one of its readers, and, incidentally, to himself.

We feel a particular pride in looking back over the past six months in noting that the editorials in the journal have been ahead in every great development that has occurred in the industry during that period. In other words it has *led*; has helped mold opinion in favor of every movement of importance and benefit to the industry in that time.

We can make this statement without diffidence, for in every case the original suggestion, the first discovery of the trend, did not originate in this office. One man in particular—also a resident of a distant city, who although his name is prominent to the industry, is known to the present staff only through correspond-

ence—was of especially great assistance in attaining this highly desirable degree of efficiency.

The number who have freely contributed towards providing the bulk of material which has been published in our news columns, thus making them more interesting to the whole field is legion. Such items which come direct are valued highly. Accuracy is assured and likewise completeness. We cannot thank these men too highly. Yet the service they have rendered the journal, great though it has been, seems insignificant when contrasted with the service they have rendered the whole industry.

These are but a few examples of how the reader can co-operate with the journal. The friendships it has already won are an heritage of the past. The friendships it must win will be its strength in the future. They are indispensable to its success in adequately fulfilling its mission.

As has been stated, the number who have assisted in producing the journal that you have read during the past six months is large. But each addition to the ranks is an acquisition beyond value. We trust that in the forthcoming six months there will be many.

Its Editor Enlists—Vulcan Bulletin Suspends

One bright feature, at least, in the gas industry will be temporarily lacking—the *Vulcan Bulletin*, which has become well known to gas men and has provided a very large number of them many bright moments, is about to suspend publication. Its editor, A. W. Humm, has heard the call of the Nation, and has enlisted in the U. S. Navy. His employer has elected as the best means of insuring that his position will be open upon his return—if he does return, which is to be sincerely hoped—to have his duties simply mark time during his absence.

There is no element of retrenchment in this step, as the retiring editor explains:

" By ' good-bye ' issue we don't mean that this is to be the final issue; it means a temporary suspension of the *Vulcan Bulletin* until after the war.

" The reason for this is not the expense, not to retrench and cut down expenses, not in any way to curb business activities by setting an example that might be followed, and react unfavorably throughout the Gas Industry thereby affecting business conditions.

" But the reason is big and honorable and patriotic, and has won the gratitude of myself, the editor.

" Writing as I would speak to you if it were possible to meet each reader face to face, I have enlisted together with a number of other employees of this company, in the service of the U. S. Navy. The W. M. Crane Company, rather than employ other men to fill our places, has decided to temporarily discontinue the particular work that we have been doing, at a great deal of inconvenience, yes, and financial loss also, in order to hold our positions open for us until we return.

" The call might come for us any minute to report for duty, so we are making this issue the ' goodbye ' issue in order that we may be sure of bidding you goodbye. Have confidence in the army and navy and the Government. With your help and co-operation at home, with the prosperous condition of business that you will maintain, this war will soon be ended with the United States and our Allies victorious and the world made safe for democracy. So ' good-bye ' readers, friends. Even though you will not hear from us for some time, don't forget us and, when the next issue of the *Vulcan Bulletin* reaches you, we will try to tell you what we have seen and done. Our part is small. We are but tiny cogs in the machinery of war, but this much we know, the men of the W. M. Crane Company will be cogs that will be found ready and willing to do their bit to the best of their ability."

Soldiers in France

In these days of guarded utterances and meagre information—justified in the highest degree, since it means the saving of many lives—the country experiences but few thrills such as ran through it when the announcement came that our first fighters had arrived safely in France. The stage of preparation has past. We are now actively engaged in the war.

The period of speculation and discussion as to the part the gas industry must take is over. We will soon cease estimating the quantities of by-products we must furnish. Figures will be based on experience; not on theory. The army that has landed will soon begin to burn up explosives in quantities. The drain will have commenced.

The ability of the gas industry to provide the basis of the new material that must go to replace them will determine to a considerable extent the efficiency of that part of our army which has taken up its post in France and of those parts which will follow.

It is a responsibility of the individual worker as well as of the industry. In England the workman has voluntarily reduced himself to a state that some style " industrial slavery," that the supply of munitions may continue to flow in unceasing and ever-augmenting streams. It is said that even if British industry should be willing to give up to the war, British labor would prevent the country from following such a course. After a tardy start the war has been brought home to the workers of the land. It is now a peoples' war rather than a government war.

The gas companies of the country stand ready to render every possible service to the Nation; make every conceivable sacrifice consistent with the broader National interest. The workers in the ranks can make their efforts glitteringly successful or nullify them entirely. It is a time for complete *esprit de corps.*

Crude Petroleum Report is Good Despite Conditions

The following comparative summary of crude-petroleum movement in May, 1917, represents the operations of 145 pipe-line and refining companies that handle or receive oil direct from the productive fields east of the Rocky Mountains and is compiled from reports received by the United States Geological Survey, Department of the Interior, prior to noon of June 28, 1917.

This compilation includes statements filed by

37 companies operating in the Appalachian field.
9 companies operating in the Lima-Indiana field.
6 companies operating in the Illinois field.
61 companies operating in the Oklahoma-Kansas field.
12 companies operating in the Central and North Texas field.
6 companies operating in the North Louisiana field.
6 companies operating in the Gulf Coast field.
8 companies operating in the Rocky Mountain field.

CRUDE PETROLEUM MOVED FROM FIELD SOURCES
(Barrels of 42 gallons each)

Field	May, 1917	April, 1917	May, 1916
Appalachian	2,125,702	1,905,861	1,943,252
Lima-Indiana	312,134	279,878	322,489
Illinois	1,423,689	1,307,951	1,570,786
Oklahoma-Kansas	10,797,881	10,827,168	.....
Central and North Texas	916,082	799,331	823,322
North Louisiana	798,962	739,573	1,066,110
Gulf Coast	1,578,750	1,594,569	1,511,652
Rocky Mountain	719,621	775,542	.....

CRUDE PETROLEUM DELIVERED TO REFINERIES OR CONSUMERS
(Barrels of 42 gallons each)

Field	May, 1917	April, 1917	May, 1916
Appalachian	2,158,763	2,392,828	2,566,830
Lima-Indiana	1,489,485	1,375,111	1,520,975
Illinois	720,723	625,155	604,504
Oklahoma-Texas	6,872,517	6,853,290	.....
Central and North Texas	1,330,528	841,410	994,904
North Louisiana	1,018,639	656,554	812,993
Gulf Coast	1,659,688	1,658,883	1,412,249
Rocky Mountain	743,338	702,072	.....

STOCKS OF CRUDE PETROLEUM AT END OF MONTH
(Barrels of 42 gallons each)

Field	May, 1917	April, 1917	May, 1916
Appalachian	7,145,621	6,633,436	7,719,177
Lima-Indiana	4,636,746	4,589,645	5,093,064
Illinois	4,808,203	5,070,966	7,417,609
Oklahoma-Kansas	93,546,562	92,689,319	.....
Central and North Texas	2,672,153	2,768,961	4,781,565
North Louisiana	4,475,737	4,087,955	4,998,196
Gulf Coast	8,677,057	8,760,482	9,986,105
Rocky Mountain	798,094	821,292	.....

As between April and May, 1917, the foregoing summary of petroleum moved from field sources shows an appreciable gain in May that is gratifying both as to quantity and as to distribution, although it records in some areas a disparity in this month as compared with May, 1916.

As indicated by the table of deliveries to trade, crude-petroleum consumption was apreciably greater in May than in April, 1917, and decidedly greater in May, 1917, than in May a year ago.

Slight gains in May in stock accumulations in the Appalachian, Lima-Indiana, Oklahoma-Kansas, and North Louisiana fields are encouraging despite corresponding losses in other fields.

Prepared under supervision of J. D. Northrop.

Advocates Lead Wool, Which Has Not Increased Materially in Price, as a Present-Emergency Measure

R. J. Thomas Concedes Labor of Making Joints is Greater than with Cast Lead and Cites Compensating Advantages

In calling the attention of this Convention to lead wool as a material for use in calking joints in cast-iron pipes, I do not claim to be bringing up a new subject; but it does seem at this time when the price of pig lead has risen so enormously, while lead wool has not advanced materially, that it is a favorable opportunity for those interested in improvement to make tests to ascertain whether or not it would pay them to use lead wool to the exclusion of cast lead, declared R. J. Thomas, in a paper before the American Waterworks Association Convention.

You are familiar with the delays of the melting pot; the danger of spilling hot lead, and the waste which comes from handling it.

I have, for instance, seen a melting pot containing about two hundred pounds of metal from which at least twenty-five pounds of dross had been taken, so that 10 per cent was wasted in this way.

I have seen trenches held up because it was too cold to pour the joints or because rain had filled the bells with water, so that without intending to disparage or make unfavorable comment on the material which has been used for so many generations in water works practice, I do feel that there are so many points in favor of lead wool that it may pay to discuss the matter at this time.

FLEXIBILITY OF LINE

In taking up the question of making lead wool joints, let us consider first that a bell and spigot joint is a stuffing box and the advantage of the yarn is the flexibility which it gives to the line. Now in using lead wool, one of the most essential features is the calking or pounding of the yarn into the joint as tightly as it is possible; and it has been said that joints which have been calked with a pneumatic hammer and which stood a hydraulic pressure of 1,800 lb., showed when the joint was cut to demonstrate the character of the joint, the yarn bulged up like rubber, proving that the whole line must have been under tension, and that any expansion or contraction could readily have been taken up.

It therefore seems obvious that the great advantage coming from the use of lead wool is due to the fact that as you pound the strands of lead wool into the bell, you constantly increase the compression on the yarn and that you get just as good an effect as you would by using a rubber packing held in place with a clamp.

The impression exists that lead wool joints are too expensive to make and that the first cost is prohibitive. No doubt a lead wool joint cannot compete with a cast lead joint in point of time in making; it can, however, save fully 25 per cent of the lead used, which at the present time is quite an item, but it does require more yarn and certainly requires more labor to make it satisfactorily than cast lead joint; but consider just what this labor is of which more is required

For instance, you have gang of calkers, laying 36-in. pipe, and they can lay 10 or 15 lengths of it a day—will say that with a cast-lead joint you can pour these 15 joints in an hour, and with a pneumatic hammer you can set them back ½ in., with two calkers, in eight hours. This would be pretty good work, and you would have joints without the yarn being compressed and with just half an inch of lead holding at the joint. You would also have joints at 150 lb. pressure, leaking, and the chances are that you would have three out of fifteen joints which would be imperfectly run, due to the lead not holding; to water in the bell, or some other causes—all of which joints would have to be made over, or if they were filled in would at the end of a certain period cause you trouble and expense.

Making the Same Joints with Lead Wool

Suppose you made the same joints with lead wool. It is manifestly true that no two calkers could yarn and calk 15-36-in. joints in one day and do the work satisfactorily. The best two calkers could do would be 7 joints in one day of ten hours, and they would be exceptional workers. Some calkers might take one day to calk three joints, but would judge from what I am told that 5-36-in. joints a day is about the best that two calkers can do in making a lead wool joint and making it right. It therefore would seem on first observation that when it came to 36-in. pipe that three times the number of calkers would be required to do the work on a 36-in. line, and if the work was all straight and running along the line of trench it is possible that this might be the case, but you all know that as a matter of fact the lines of pipe where you can place 15 lengths of 36-in. pipe in position a day are very unusual and that it is very rare indeed for the average calker to do more than four hours of useful work out of a day of eight or ten hours. The rest of the time he is waiting for the lead to melt or the pipes to be put in position or for sundry other causes.

It is obvious therefore that while theoretically it will take three times as long to make the lead wool joint, practically this is not the case; and that when you come to consider that the lead wool joint will be capable of standing a hydraulic pressure even as high as 3,600 lb. to a square inch; that the yarn will be under compression; and that the leakage from breaks will probably be eliminated, you have an advantage in favor of the lead wool joint, which cannot be too strongly insisted upon.

It would seem from the general experience of the gas companies using lead wool, particularly now, when the price of lead wool is more nearly approaching that of pig lead, that this is a good opportunity for water works men to decide whether this material shall come into more general use and this is the object of my paper.

Detroit Gas Company Method of Laying

I have cited its use on 36-in. mains to show just wherein the great diversity of cost is most apparent. Let me call your attention, however, to another way by which this material may be used to advantage and the manner in which it has been most successfully employed by the Detroit City Gas Works.

Their practice is to calk three lengths of 16-in. pipe together before lowering them into the trench. This reduces the cost of bell holes two-thirds and enables the calkers to work ahead, so that the pipes are ready before the trench is dug. It is said that this was so successfully done in Detroit that more than six weeks of time was saved on one pipe line. On smaller pipe; take 6-in. pipe, six lengths may be calked together and the pipe rolled into the trench. Generally ropes are employed to lower the pipe, but the pipe may be thrown right into the trench without fear of breaking the joint. It is then caught up with chain-falls and drawn back to fit the bell. It has been said that the calkers working outside of the trench do nearly three times the amount of work without fatigue; that men seek the job and that their health is so vastly improved that the old distaste for calking disappears and the calker seeks the job rather than having to be coerced into doing the work.

This method of making joints of cast-iron pipe, using lead wool, is receiving more and more attention, and while there are a number of people who claim that it is not practical and do not care to try it, nevertheless there are many others trying it.

Makes It Materially to Advantage of Employee to Remain in Company's Service

Bridgeport Machine Tool Company Able in Little More than Year to Increase Working Force from 250 to 1,400 Hands in Face of Stiffest Competition for Labor Country has Ever Known

The Bullard Machine Tool Company of Bridgeport, Conn., employs four methods to secure and retain the most profitable type of workmen. It has in operation a "Maxi-Pay" wage plan, a production bonus, a service bonus and an attractive form of insurance. From time to time happily worded pieces of literature are distributed to the workmen to call attention to some phase of co-operation.

By means of these methods, according to W. E. Freeland, in an article in the *Iron Age*, it has been able to increase its working force from 250 hands to over 1,400 hands in a little more than a year in the face of the stiffest competition for labor that this country has ever known in the metal-working industries. And it was by refining the lubricant that a little later an efficiency was gained by which the production records of the group of 1,400 men were excelled by a working staff of a little over 1,100.

Workmen Divided Into Three Classes

The "Maxi-Pay" plan offers full opportunity for advancement along definite lines to those showing ability, provides a wage rate limited only by ability and occupation, and advances wages in recognition of ability. The workmen are divided into three classes: Class AA includes sub-foreman and leaders in charge of working gangs of mechanics and, so far as possible all foremen and shop executives are selected from this class. The minimum rate per hour is 55 cents but the maximum rate is dependent on ability. Class A includes skilled mechanics of demonstrated ability with a minimum rate of 50 cents per hour and the possibility of a higher maximum rate. Class B includes mechanics of good average ability and the rate is 45 cents per hour. Mechanics of limited experience are placed in Class C. The rate per hour for this class is 40 cents. Apprentices, both special and regular, are included in Class D. Men from this class, upon completing their courses, are advanced to the class determined by computing their average efficiency records over the last three months of their apprenticeship. In Class E is found labor of all kinds, skilled or unskilled, which is not directly productive. The minimum rate per hour is 30 cents, but

the maximum is dependent upon ability and occupation. In the employment of men of this class, preference is given to those who speak and write English and who show qualities which will later warrant advancement. This " maxi-pay " plan has been in successful operation since May 15, 1916.

On Nov. 1, 1916, a production bonus was incorporated into the plans. Standard times are set for each operation in a manner to be described later in this article. These standard times remain unchanged for one year from date, provided no change is made in designs of piece, material, number of pieces, method of equipment. Care is taken to see that such changes, if made, are equitable both to the operator and to the company. Usually the standard time as first figured by the planning department is considered only as trial time on new work, or on old work done in new ways or with different equipment.

Trial times are considered as standard times in bonus calculations and payments until sufficient experience is gained to demonstrate their correctness or to make adequate changes.

When once established as standard time, there is rarely occasion to make a change for at least a year. The basis of efficiency varies according to the class rating of the operator. In the lowest class of productive employees the basis is set at 75 per cent and 1 per cent of wages is paid for each per cent of efficiency above 75 per cent. Records are kept of the standard time on each job and the operator's actual time and the man's efficiency is determined by monthly computations. The records of bonuses earned are used as a basis for advancement from one class to another in the " maxi-pay " rating.

Premium Paid for Prompt and Continued Service

A premium is also paid for prompt, regular and continued service. An emloyee gets a bonus amounting to 10 per cent of the weekly wages he earns during the regular hours of operation. No bonus is paid on overtime. A service premium insurance for all workmen who had been six months or more in the employ of the company. To an employee of six months' standing an insurance certificate for $500 is given. After completing a year of continuous employment, the value of the certificate is increased to $600. For each year of continuous employment thereafter $100 is added to the value of the certificate until a maximum of $1,500 has been reached. To all employees who had been ten years or more with the company a maximum value certificate of $1,500 was given at the time the plan was put into operation. An employee not over 59 years old who becomes totally disabled by accident or disease while in the employment of the company has the amount of insurance which he has obtained distributed to him in equal amounts for such period of years as may be determined by the company after a conference with him and his beneficiary. It has been found that this particular form of group insurance has been especially attractive to the workmen.

Hourly Rates Alone Not the Determining Factor of Labor Costs

Hourly rates alone are not the determining factor of labor costs. Labor cost is the lowest when help is steady. Three things inevitably follow low labor turnover: increased output, decreased spoilage of work and decreased spoilage of tools. *W. E. Freeland in the Iron Age.*

Coates Advises Toledo Employees by Means of Service Talks

The problem of how to get the most out of your employees has been tackled by Frank R. Coates, president of the Toledo Railways & Light Company, and he is undoubtedly making great strides toward efficient service. For that reason, every property, oil, gas, traction, electric, water power, or any of the numerous branches of the service may profit by what the Toledo Doherty Company has done.

He has sent four talks to his men, each of them dealing with one phase of the problems which present themselves daily, and each of them advising the men in perfectly simple language. These talks were sent, one at a time, to the Toledo employees, and because they are so effective, it might be well for other companies to work along similar lines. The following extracts will give some idea of the sort of talk Mr. Coates has distributed.

This from this first one, entitled " Courtesy ":

Be Courteous

" Not some of the time to some of our patrons—not most of the time to most of our patrons—

" But All of the Time to All of Our Patrons

Courtesy consists of those kindly, helpful acts we render others that we like to receive ourselves.

"A friendly 'good morning,' a cordial 'thanks,' a cheery word, a pleasant smile from the man who comes directly in contact with the public will do more to gain good will and friendship than anything else."

The talk continues to emphasize the need of courtesy and points out that a great deal depends upon it. The following is an extract from the talk on " Common Sense."

" Rules can be made to cover every possible situation that might arise. In every instance when possible and practicable these rules were made to be obeyed.

" Situations often arise when a man must exercise his own common sense and let his reason tell him the right thing to do—the safe thing to do.

" 'The Best Safety Device Is A Careful Person.' Without thought and care on the part of the man behind the device, it will avail little.

" Remember, it is always better to cause delay than an accident."

The third of the series is on " Kindness," and after telling how much kindness is appreciated by all who come in contact with a public service corporation, it goes on to say:

" Kindness is an attribute that all may cultivate—it is a mark that always distinguishes the big man—no matter what his work may be.

" Kindness is doubly appreciated on days when the weather is disagreeable and passengers are irritable. Then a kind word or a cheery smile will spread the sunshine around.

" Kindly deeds to others with whom we come in contact, will pay large dividends to ourselves in human happiness, that no amount of money can buy."

In the last talk to his employees, Mr. Coates emphasizes the necessity of teamwork.

"Are you pulling together—you boys on the front and back end.

"Are you both doing your best?

" Few get far by pull.

" Many get there by push.

" Now let's push with the pull and develop such teamwork that all of us will enjoy our work to the utmost, and achieve the results I believe all of us are after."

News of the Gas Industry

Tokyo, Japan, Gas Company Sends Representatives on Tour of United States Plants

The National Commercial Gas Association offices were recently visited by two prominent Japanese gas officials, who are now making an inspection tour of the larger gas companies in this country. They are Einosuke Okawasa, manager, and Nawoshige Osawa, gas engineer, Tokyo Gas Company, Ltd.

From the N. C. G. A. offices they were escorted to the Consolidated Gas Company, where Mr. W. R. Addicks received them and personally conducted them through the various interesting departments of the company's up-to-date building at Fifteenth Street.

Mr. Addicks spent about two hours with these gentlemen, and upon being called for another engagement, Mr. Stark went with them to the new Fifty-seventh Street building, and from there they made several other inspections.

New Heat Standard and Rate Ordinance Adopted by Chicago Council

By a vote of 46 to 15 the aldermen of Chicago adopted the new ordinance, which will change the standard of gas from a lighting basis to a heating basis, and will cut the price.

The monthly gas rates under the terms of the new ordinance are fixed upon a sliding scale as follows:

Thirty cents for the first 350 cu. ft. or less used each month, which amounts to a minimum monthly charge if no gas is used.

Seventy cents for each 1,000 cu. ft. in excess of the first 350 ft. and not more than 10,000 ft.

Sixty-five cents for each 1,000 cu. ft. in excess of the first 10,000 ft. and not more than 50,000 ft.

Forty cents for each 1,000 cu. ft. in excess of the first 50,000 ft.

Effect on Small Consumer

These rates work out for the small consumers in the following fashion:

1,000	cu. ft.....	75½ cents
1,500	cu. ft.....	73 2-3 cents
2,000	cu. ft.....	72¾ cents
2,500	cu. ft.....	72 1-5 cents
3,000	cu. ft.....	71 5-6 cents
4,000	cu. ft.....	71⅜ cents
5,000	cu. ft.....	71 1-10 cents
10,000	cu. ft.....	70½ cents

The average consumer in Chicago uses 2,500 cu. ft. of gas per month.

Gas mantles will have to be used by burners of the new gas after it has been placed upon a heat basis and special provisions for free or cheap priced mantles to be furnished by the company have been placed in the ordinance.

Plan for Lighting Reduction

Reduction of lighting requirements are that the gas may be dropped from twenty-two candle power to sixteen candle power within sixty days, and then it may go to twelve candle power for 120 days, following which period it may range between nine and eleven candle power for one year.

The provisions for profit sharing go into effect as soon as the company shall have earned $4,000,000 above cost of operation and interest charges on money borrowed to enlarge the plant. The company shall retain 75 per cent of the earnings between $4,000,000 and $4,500,000 and refund the remaining 25 per cent to its consumers. All profits in excess of $4,500,000 shall be split "fifty-fifty" between the company and the consumers.

Guarantees New Plant

The company specifically guarantees to start building at once a huge new plant for manufacturing the new kind of gas it intends to use and agrees to permit rebates to consumers for gas falling below the new heating standard of 565 thermal units. The ordinance may not be changed for one year, and if satisfactory may be continued on the books for five years.

Date Set for Indiana Hearing on Heat Standard

The Public Service Commission of Indiana has set July 11 and 12 as the dates on which it will hear the petition from the Indiana Gas Association for authority to decrease the British thermal units in gas from 600 to 550.

Coal Situation Shows Signs of Improvement

Official Figures For Six Months Are Reassuring

Not only food but fuel is a vital need of this country and of our allies—coal to run the ships and railroads, to feed the iron furnaces and furnish steam for all the manufacturing plants, coal in greater quantities than have ever before been mined in the United States or in any part of the world—and this need is being met in truly American fashion by the operators and owners of the mines and by the diggers of coal. With these words, Secretary Franklin K. Lane began his statement regarding the coal situation as reported to him by the statisticians of his department.

The production of coal in the United States last year, he continued, was the greatest in the history of the country. A new record, however, was set for the first six months of this year, fully 270,000,000 tons of bituminous coal being produced since January 1, thus exceeding the output of the first six months of last year by about 20,000,000 tons. Even better news is that the limit has not yet been reached, for as the railroads are able to work out to better advantage the problem of car supply and give to the mines greater facilities for transporting their product to market, the supply of coal that reaches the consumer will be in steadily increasing quantities. In the early months of 1917, because of the congestion of the railroads and the difficulties of transportation, the production of bituminous coal fell behind the high mark set in January and February, a year ago. As a result of the patriotic and earnest endeavor of the railroad officials and the coal operators and representatives of mine workers who have volunteered their services to the Federal Government in this emergency, production has been speeded up within the last few months and the output of soft coal which in May exceeded all previous records, was surpassed in June.

Despite the extra demand in this country and the urgent needs of our allies, no one with the facts be-

fore him can doubt that the coal industry, under the careful guidance of those now directing its welfare, will be able to supply all needs.

The difficulty of distribution now so great will be intensified, however, in the coming winter months. Just as consumers of foodstuffs are being urged to eliminate all waste and to practise sensible economy, so the consumers of coal must do their share in working out the coal problem by unloading every coal car as fast as it is received, and in improving their plants so as to utilize to the fullest the heat value of the coal that reaches their bins. In stopping the coal panic and in expediting a condition of fuel sufficiency, every consumer can do his bit.

Assessment of Milwaukee Company Increased

An assessment of $2,900,000, an increase of $400,000 over that of last year, was placed on the property of the Milwaukee Gas Light Company in Milwaukee County, in a conference of city assessors and assessors of various towns in which the company has property. The assessment on the company's property in Milwaukee is $12,617,750, an increase of $384,870 over that of last year. The company's property in towns outside the city is adjudged as follows: Town of Wauwatosa, $89,790; Greenfield, $62,520; East Milwaukee, $54,950; West Milwaukee, $37,790, and Lake, $37,150.

Springdale, Ark., Plant Bought

George D. Locke, president of the Middle West Gas & Electric Company has announced the purchase by his company of the Springdale Light & Power Company of Springdale, Ark. The purchase price was not made public.

Coincident with the closing of this deal was the announcement by Mr. Locke that the general offices of the company are to be located in Fayetteville, Ark., after July 1. He and H. L. Hughes, secretary-treasurer of the local subsidiary companies in Arkansas, will move to Fayetteville from Rogers. The company owns gas and electric plants at Rogers, and points in Ohio, in addition to the newly acquired Springdale property. Mr. Locke and other parties own the electric light plant at Harrison.

Columbia Selected as Army Post

S. W. Brown, superintendent of the gas department, Columbia (S. C.) Railway, Gas & Electric Company, has recently made the statement that business conditions were improving, and in view of the fact that Columbia has been selected for one of the new army posts, a large increase in the gas output is looked forward to.

In each of the locations selected for these army cantonments, business in general, and especially the gas business, has shown considerable increases, and Columbia is not to be the exception.

Recent Activities of Fort Worth, Tex., Company

At the last annual meeting of the Lone Star Gas Company, held April 10, the following officers and directors were elected: L. B. Denning, Columbus, Ohio, president; W. P. Gage, Ft. Worth, Tex., 1st vice-president and general manager; M. W. Bahan, Ft. Worth, Tex., 2nd vice-president; D. L. Cobb, Ft. Worth, Tex., secretary and treasurer, A. G. Reed, Ft. Worth, Tex., director.

In addition to the above officers, who compose the directorate, H. A. Jackson, Ft. Worth, Tex., was elected assistant secretary and assistant treasurer, and R. W. Sterrett, Ft. Worth,Tex., was elected assistant secretary and purchasing agent.

During the coming summer, the Lone Star Gas Company is going to build a 16 in. high-pressure line from Gainesville, Tex., northwest into the southern Oklahoma gas fields in Stephens and Carter Counties. The company very fortunately had duplicate system in Texas from which they are going to obtain the pipe and fittings for this extension. Had it not been for this duplicate system, with the present high prices and extreme scarcity of material, the chances are the extension would not be made. With the changes in construction outlined above, the company will be in a position to furnish adequate supply for Fort Worth and Dallas and twenty odd other cities and towns which they are at present supplying in north Texas. Along with the pipe line into Oklahoma, the company will also construct private telegraph and telephone line. Contract for construction work has been let to Mr. E. A. Macpherson of New York City.

It is interesting to note that the Lone Star Company was influenced in the outline of their extensions this year from considerable patriotic motives as well as good business judgment in making extensions. The scarcity of all kinds of fuel and possible shortage of railroad equipment, coupled with the appeal of the Committee on Oil and Gas of the National Council of Defense, made it imperative for the company to do everything in its power to help out the fuel situation in north Texas, and the officers of the company realizing the situation, have done everything in their power to assist along these lines.

This journal is indebted to W. P. Gage, vice-president and general manager of the company, for the above information.

Industrial Rates at Boise Ida., Increased

A new schedule of industrial rates effective from July 1 was filed recently by the Boise Gas Light & Coke Company with the Public Utilities Commission of Idaho. The new schedule will not interfere with the rates on gas used for domestic purposes.

Under the terms of the new schedule, industries using more than 19,000 cu. ft. of gas monthly will pay more, while the rates will be decreased on gas used in less than that amount.

Gas sold under the industrial rates in the past has been charged for at the rate of $1.10 a 1,000 ft., with a minimum of $25.

Here is the new rate:

First—$2 gross, $1.75 per first 2,000 cu. ft., minimum bill $1.

Second—$1.75 gross and $1.50 net for the succeeding 9,000 cu. ft.

Third—$1.25 gross and $1 net for all additional gas consumed.

Chicago Company Must Pay Delayed Taxes

An opinion rendered by Judge David F. Matchett in the Chicago Circuit Court in the case of the Peoples Gas Light & Coke Company against Henry Stuckart, county treasurer, makes available to the city nearly a quarter of a million dollars in taxes levied in 1909 which have been tied up pending the court's proceedings. The company had secured a temporary injunction restraining the county treasurer from enforcing the full amount of the tax levy, and Judge Matchett dissolved the injunction.

First Meeting of New Jersey Utilities and Municipalities on Rate Question

Because of the unpreparedness of the representatives of the cities and their lack of knowledge as to how the hearing was to be conducted, their counsel deferred cross-examination of all witnesses for the gas companies at the meeting held June 20.

L. D. H. Gilmour stated the position of the Public Service at the outset of the hearing. He declared that the United States Government is demanding that by-products of gas be turned over to the munition plants for use in their manufacturing. By reason of this the present standard, of 600 B.t.u., cannot be easily maintained, said Mr. Gilmour. The case for the New Jersey Gas Company, serving seventy-five South Jersey communities, and a number of smaller companies was presented by Theodore J. Grayson. The companies are asking that the standard be reduced to 550 thermal units.

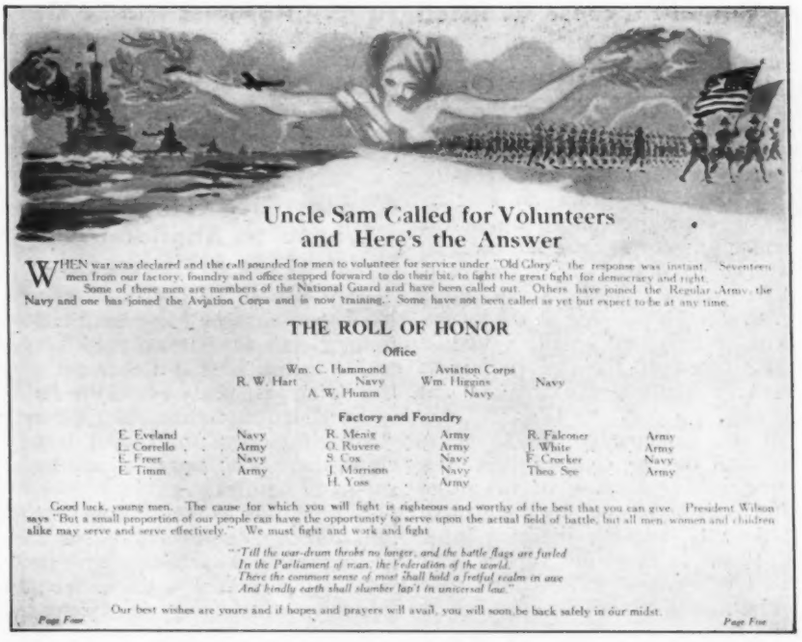
John J. Kumpp, of Philadelphia, a gas engineer with the United Gas Improvement Company, of that city, and a member of the committee named to present a report to the Public Utility Commission, of New York, on gas standards, testified for the companies. He thought that the consumers would ultimately benefit from the lower standard, because the carbon hydrates would not interfere with the gas burning mantles, if they were first removed. The freezing of pipes would also be obviated and complaints of consumers about the carbonization of the mantles would be reduced fifty per cent.

R. F. Pierce, engineer of the Welsbach Company, of Gloucester, stated that air adjustments on the mantles is not required below 550, but that much air is needed to burn soluble hydro-carbons.

Carl Geist, manager of the Atlantic City Gas Company, stated that the normal cost of production has not existed since 1915, and that the increase for material for 1916 over the previous year was almost six cents more on 1,000 cu. ft., and at the present market price of goods it will be probably fifteen cents this year. The company's coal bill has gone up practically $5,000. He estimated that if his concern were permitted to maintain a lower standard of gas than the present regulations, it would save approximately $10,250 for the year in the operation of its plant.

Others who testified along similar lines were: R. M. Garrison, general manager, Standard Gas Company, Atlantic County; S. J. Franklin, manager Millville Gas Light Company, and J. C. Lightfoot, secretary-treasurer of the New Jersey Gas Light Company, Glassboro.

C. W. Hoy, general manager of the New Jersey Gas Company, testified that if his company were permitted to lower the standard to 550 thermal unitis, it would mean considerable of a saving.



Uncle Sam Called for Volunteers and Here's the Answer

WHEN war was declared and the call sounded for men to volunteer for service under "Old Glory" the response was instant. Seventeen men from our factory, foundry and office stepped forward to do their bit, to fight the great fight for democracy and right. Some of these men are members of the National Guard and have been called out. Others have joined the Regular Army, the Navy and one has joined the Aviation Corps and is now training. Some have not been called as yet but expect to be at any time.

THE ROLL OF HONOR

Office

		Wm. C. Hammond	Aviation Corps		
R. W. Hart	Navy			Wm. Higgins	Navy
		A. W. Humm	Navy		

Factory and Foundry

E. Eveland	Navy	R. Menig	Army	R. Falconer	Army
L. Corrello	Army	O. Ruvere	Army	J. White	Army
E. Freer	Navy	S. Cox	Navy	F. Crocker	Navy
E. Timm	Army	J. Morrison	Navy	Theo. See	Army
		H. Yoss	Army		

Good luck, young men. The cause for which you will fight is righteous and worthy of the best that you can give. President Wilson says "But a small proportion of our people can have the opportunity to serve upon the actual field of battle, but all men, women and children alike may serve and serve effectively." We must fight and work and fight

"'Till the war-drum throbs no longer, and the battle flags are furled
In the Parliament of man, the Federation of the world.
There the common sense of most shall hold a fretful realm in awe
And kindly earth shall slumber lapt in universal law."

Our best wishes are yours and if hopes and prayers will avail, you will soon be back safely in our midst.

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ROLL OF HONOR OF THE EMPLOYEES OF WILLIAM M. CRANE & COMPANY

Two Scholarships Discontinued at University of Michigan

The executive committee of the Michigan Gas Association at a meeting in the Pantlind Hotel, Grand Rapids, Mich., recently, decided to discontinue the two scholarships at the University of Michigan this year as the instructor, Professor Alfred White, is on military service.

West Virginia Oil and Gas Properties to be Sold

E. F. Kummer, the administrator of the estate including the Lost Creek Oil & Gas Company, Buckingham, W. Va., is desirous of disposing of the property now in hand. At the completion of this sale, Mr. Kummer will take up other lines.

Vulcan Company Publishes Roll of Honor

The last issue of the *Vulcan Bulletin*, published by William M. Crane & Company, included a roll of honor of their men who have responded to the country's call.

An illustration of the double page spread is given herewith, and shows that four of the office members have enlisted in either the navy or aviation corps, while thirteen of the factory and foundry men have chosen either the army or the navy.

The attractive design and honor attached thereto makes it one of the most fitting acknowledgments which the company could offer to these employees.

Atlantic, Ia., Plant Changes Ownership

An announcement has been made that the Atlantic Gas Company has changed hands. The Atlantic, Ia., plant and the plant at Webster City, which were formerly under the management of Campbell W. Fair, are now under the management of W. F. Goodbody, formerly of Omaha, who, with some Omaha associates, is now the owner of the business of the company. Mr. Goodbody was previously employed by the United States Trust Company, of Omaha, and he and some other Omaha men saw this opportunity and have closed the deal.

A New Franchise Wanted at Dallas, Tex.

The Dallas Gas Company will apply for a new franchise, it was announced following a conference between gas company officials and the Board of Commissioners recently. The board will grant an indeterminate franchise, on condition the company is not to raise the rates on natural gas during the seven years of its present franchise or to reap a profit above 7 per cent on the investment, to be based on the valuation being taken of the gas company's property jointly by the company and the city.

It was explained to the Commission that the gas company has been losing money because of the large extensions occasioned by the growth of the city, and the company must sell bonds to carry out further proposed extensions. The bonds cannot be sold unless a franchise life of more than seven years from issue is granted, and the city can grant only an indeterminate new franchise during the life of an old one, according to charter provisions.

Commissioner Otto H. Lang said that improvements the company will be forced to make during the next five years on account of street paving alone will be about $1,000,000.

The Commissioners said if the franchise is granted the city will require the company to reduce the cost of natural gas if a cheaper source than the one now used can be found. Formal application for the franchise will be made by the company as soon as a few conditions stipulated by the board are incorporated.

Industrial Installations In and Near Rockford, Ill.

At Galva, Ill., H. L. Wolfe, industrial engineer of the Rockford Gas Light & Coke Company and of the Western properties of the American Gas Company, closed contracts for gas main extensions to factories where gas will replace other mediums in forging. At Waterloo, Ia., in a plant where six-inch shells are being made for the Government, gas furnaces will be used for annealing. The Cotta Transmission Company of Rockford, Ill., is also using gas appliances for Allies' contracts. This new business secured by Mr. Wolfe for his gas corporation also means added prosperity for Rockford concerns since he placed the orders for the furnaces with plants in this city, the Eclipse Fuel Engineering Company supplying a large quantity. "The uncertainty of the oil fuel supply at this time accounts for the numerous changes to gas furnaces," he states.

Kansas City Gas Company Wants to Abandon Natural for Artificial Gas

The Kansas City Gas Company has begun an open drive to abandon natural gas for an artificial plant and to collect all that it claims it has lost in the past few years in the form of an added capitalization.

In a notice to the mayor it declares there is no longer an available supply of natural gas.

In a petition to the Missouri Public Utilities Commission it asks for an entirely new schedule of rates, repudiating any obligation under the franchise which gives it a right to live.

Instead of a 30-cent rate provided for by its franchise with the city, it asks for $1 from the small consumer, shading the price for larger quantities.

It asks that it be given this increase in rates over its franchise on the natural gas supply which it will give after September 1, and makes its plea on the simple ground that it needs the money and that the Kansas Natural and Henry L. Doherty have failed to deliver a supply large enough for it to make money.

Its petition asks for an entirely new scheme of capitalization, with issues of new stock which it says will be taken over by the United Gas Improvement Company of Philadelphia.

It is not likely, however, that the artificial gas plant would be operative for at least 18 months.

Following is a summary of the rates the Kansas City company asks the State Commission to put into effect:

The first subdivision of the schedule provides for natural gas exclusively or part natural and part manufactured gas or manufactured gas exclusively at rates from 60 cents to $1, depending upon demand, and is based upon the supply in sight for next winter, not exceeding 10,000,000 or 12,000,000 feet per day for Kansas City.

However, if the Kansas Natural Gas Company makes a statement under oath that it will furnish 333 cu. ft. per consumer per day next winter, the rates will be from 50 cents to $1; or if it agrees to furnish 533 cu. ft. per consumer per day, the rates will be from 35 cents to 90 cents; or if it agrees to furnish 800 cu. ft. per consumer per day, the rates will be from 30 cents to 85 cents.

Massachusetts Corporation Changes

It is understood that some important changes are contemplated in the corporate organization of the Massachusetts gas system. These changes probably will involve the formation of a new $25,000,000 company, which will take over the commercial companies of the Massachusetts gas system, with the exception of those in which the company is not the sole owner.

This would mean, therefore, that the New England Gas & Coke Company, the New England Coal & Coke Company and the Boston Tow Boat Company will disappear into the proposed new company, leaving the present Massachusetts gas companies with the shares of the Boston Consolidated, the East Boston Gas Company, the Newton and Watertown Gas Light Company, the Citizens Gas Light Company of Quincy, 60 per cent of the J. B. B. Coal Company, 47½ per cent of the New England Manufacturing Company stock, and the new company's $25,000,000 stock.

Broadly speaking, the proposed changes will merely substitute one new company for three existing companies. It will be readily appreciated that the arrangement will tend towards greater unity and simplification of operations. The new company is expected to take over the three existing companies as of July 1.

Corte Madera, Cal., Seeks Gas Service

In a complaint filed with the Railroad Commission of California the town of Corte Madera, Marin County, askes the Commission to order the Pacific Gas & Electric Company to extend its gas mains from Larkspur to Corte Madera, and to serve Corte Madera residents with gas. The town, with a population of 600 in winter and 1,000 in summer, is without gas service, although more than 100 residents have agreed to pay for gas at rates fixed by the Railroad Commission.

Gas Well that Burned 5½ Days is Capped

The big gas well of the Ouchita Natural Gas & Oil Company, near Monroe, La., which was on fire for five and one-half days, the extinguishing of which was told in the last issue of the AMERICAN GAS ENGINEERING JOURNAL, has been successfully capped. A valve weighing 1,500 lb. and built to withstand a pressure of 2,000 lb. to the square inch, was placed on the casing.

Wisconsin Company Makes Increase Application

Application to the Rate Commission for an increase of gas rates was made by the City Gas Company of Antigo, Wis. The reason set forth for the desired increase is the increased cost of coal, coke, oil, labor, etc. The place set for the hearing was at Madison.

Following is the schedule of rates applied for:

First 2,000 cu. ft., $1.75 per thousand cu. ft.

Next 3,000 cu. ft., $1.50 per thousand cu. ft.

Next 10,000 cu. ft., at $1.35 per thousand cu. ft.

All above that amount at $1.25 per thousand cu. ft.

Discount 10c. per thousand if paid by the 25th of the month.

Minimum rate 50c. per month.

Company at Rome, Ga., Is Denied Full Increase as Petitioned For

The Georgia Railroad Commission has filed its rulings on the petition of the Rome Municipal Gas Company to increase its rates. Under the order the company is directed to make certain improvements necessary to give a satisfactory service and has prescribed a minimum rate of one dollar per month to each customer. Further than this the petition for increase in rates is denied.

Natural Gas Engine Sales

The Southwestern Supply Company of Little Rock, Ark., reports the sale to the United Oil Mills of 280 horse-power natural gas engines for their plant at Hope, Ark., and 115 horse-power for their Arkadelphia plant. The Southwestern Supply Company has recently been given the distribution of these engines throughout Arkansas, Louisiana, Oklahoma and Texas.

Opposing Petition Filed in the Indiana Gas Association Case

The city of Indianapolis is the only opponent, to date, of the recent petition to the Public Service Commission of Indiana from the Indiana Gas Association, asking for authority to lower the calorific standard of gas in Indiana from 600 B.t.u. to 550 B.t.u. William A. Pickens, corporation counsel of the city of Indianapolis, has just filed a protest with the Public Service Commission, in the name of the city, which is at least worth considering by those who are to make the fight before the Commission for "living profits" from gas.

The Pickens' petition contends that the gas petition is a petition to increase rates, in reality, and that the lowering of the British thermal units will allow the sale of additional benzol at the present high prices. The petition says:

"The City of Indianapolis, a municipal corporation within the jurisdiction of this Commission, objects to the consideration or granting of the petition herein, so far as the same may affect the quality of gas furnished in said city, for the following reasons:

"1. This Commission has no jurisdiction of the subject matter of the petition except on an appeal from the action of the 'municipal council' of said city by some particular utility furnishing gas therein. Section 110 of the Shively-Spencer Utility Act specifically places this matter under the jurisdiction of the 'municipal council.'

"2. This Commission has no jurisdiction of the party petitioners and the petitioners are not such parties as the Shively-Spencer Utility Commission Act names as having any right to be heard before this Commission and to grant a hearing, or make an order herein, would recognize a procedure that might result in regulations being made in the absence of the utility affected by the regulations adopted and with no tangible petitioning party before the Commission that could be subjected to the regulating order. (The original petition from the various gas companies of the state was filed, as set out in THE AMERICAN GAS ENGINEERING JOURNAL, by the Indiana Gas Association, and not by individual companies. It is this point to which the second paragraph of the Pickens' petition is directed.)

"3. The inhabitants of the city of Indianapolis are served with gas by the Citizens Gas Company, of said city, which is now operating under a franchise granted by said city and accepted by said company on the 25th day of August, 1906, and which is still in full force and effect as to all matters covered by the petition herein (the lowering of the calorific standard petition), said franchise never having been surrendered by the company as permitted by law. Clause 13 of said franchise is in full force and effect and is as follows:

"'The parties of the second part, for themselves and their assigns, further agree that the gas so to be furnished, sold and distributed shall have at least six hundred (600) B.t.u. per cu. ft., measured according to standard methods employed for such purposes.'

"This Commission cannot effectively grant the petition herein so far as the said city is concerned without impairing the validity of a contract. The said company and the said city, through its 'municipal council,' are the parties who must first act to modify the contract and change the quality of the product and service of gas within said city. Furthermore, said gas company is not a petitioner herein. (This latter statement is true, of course, the Gas Association having filed the petition).

"4. The law, under which said franchise was granted, being Chapter 103 of the Acts of 1907 of the General Assembly of Indiana, fixes the calorific standard of gas at 600 B.t.u. as the only standard that can be contracted for, and to grant the petition herein would be setting aside a statute of the state as well as a contract made pursuant thereto.

"5. The City of Indianapolis, not waiving any objections it makes to the jurisdiction of this Commission, but replying to the merits of the position herein, says:

That the demand for benzol has recently greatly increased with consequent great advance in price, whereby the said Citizens Gas Company had in 1916 more than double the receipts for that product over the receipts of any former year, receiving from that source during the year, $288,137.71. Benzol is one of the products necessary to be left in the gas in a certain percentage and used in the process of manufacture in order to produce a calorific standard of 600 B.t.u. and by using a smaller percentage of benzol and reducing the heat units the company can reap a greater profit from its

business unless the price of gas is correspondingly reduced.

"The petitioner Forrest (J. D. Forrest) is secretary and general manager of said company.

"The indirect effect of the granting of the petition herein would be to raise the gas rates of said company and of all companies throughout the state thereby enabling gas companies to sell gas of lower heating standard, thus requiring rate payers to consume more gas to get their required heat.

"Wherefore, the City of Indianapolis, prays that the petition be not granted unless the price of gas be correspondingly reduced and not then until a full investigation of all pertinent matters by the Commission shows it to be of general public interest and necessity."

The Commission has taken no action in the gas case at the present time.

Engineering Company Explains Operation of National Chamber Oven Plant

In the second of a series of colored four-page letter folders, the Russell Engineering Company explains the operation of the National Chamber Oven Plant.

This company is co-operating with the Stacey Brothers Gas Construction Company in this special campaign.

Old Dutch Clock Given to Doherty Organization

The historic corner near the southern tip of Manhattan Island, where stands old Fraunce's Tavern, was selected as the most appropriate place to hold a dinner given by Hollanders in honor of the Americans, because it stands in the most Dutch part of New York City.

The Hollanders who were giving the dinner were the Dutch stockholders of the Cities Service Company, and the Americans who were being honored were the members of the Doherty Organization. F. W. Ruhle von L. ter Meulen, who has acted as the connecting link between the Doherty Organization and its friends in Holland, represented the Dutch stockholders, and invited about forty persons from the New York office to be present at the dinner at which he was to present a gift to the Doherty Organization.

A grandfather's clock, made at Amsterdam in 1570, was the gift selected by the Hollanders to show their esteem and was presented to Mr. Doherty at the gathering.

In presenting the clock, Mr. ter Meulen said:

"In the name of your Dutch friends, I tender it to you with their best wishes for your everlasting energy and success. Let me add that they have expressed this sympathy in these words engraved on the clock, alluding to the frightfulness around them:

To the Doherty Organization
From Amidst Preparedness for Destruction
Holland Honors Preparedness for Construction
1914-1917

Mr. Doherty accepted the clock with a very interesting and appropriate speech. George Williams, manager of the new business department, then presented Mr. ter Meulen with a Dutch flag electric light sign which was blending its red, white and blue with the American colors in the room at Fraunce's Tavern, and said that it was the first flag of its kind ever made.

Aeronautical Research Laboratory To Be Built in Virginia

The National Advisory Committee for Aeronautics has just closed a contract with the J. G. White Engineering Corporation for the erection of a research laboratory on Langley Field, near Hampton, Va.

At this laboratory, in addition to the usual structural tests on airplanes and airplane parts, scientific research peculiar to aeronautics will be conducted under the immediate supervision of the committee. Instruments are now being designed for use on airplanes to measure the various quantities which enter into the performance of a plane when in free flight.

A wind tunnel of the Eiffel type will be erected for model tests on airplanes, surfaces, and propellers. Having the results of tests on models and full-sized surfaces, it will be possible to more accurately determine the laws by means of which results from model tests may be applied to full-sized machines and surfaces.

The laboratory will comprise complete machine, instrument, and pattern shops, as well as a drafting room with the most modern equipment.

Gas Company's Sacrifice to War Call

Example of Waycross, Ga., Company Typical of Gas Industry's Splendid Response

In taking acount of the employees of the Consumers Gas & Coke Company, Waycross, Ga., who have enlisted, intend to enlist or who are eligible to draft, the following result was obtained:

	Age	
Vice-President, R. B. Wagner	28	
Manager, H. D. Wilson	29	
Cashier, J. N. Hardy	28	(Enlisted in Officers' Reserve)
New Bus. Mgr., A. T. Timberlake	26	
Superintendent, D. S. Long	37	(Spanish War Vet.)
Fitter, Wilbur Gasset	21	(Enlisted First Ga. Gas Engineers)
Fitter, Marvin Frazer	20	(Enlisted First Ga. Gas Engineers)
Fitter, Harry Stallings	24	
Fitter, W. E. Goodrich	19	
Foreman Fitter, Charles Fisher	32	
Laborer, John Lamkins	40	
Laborer, John Woodruff	50	

R. B. Wagner expects to go with engineers of Houston Mining School, Michigan.

This same "taking of stock" is silently going on in each gas company, with results that in many instances strike a very close proportion to those of the Waycross company.

Gas Company to Remove Offices to Kalamazoo

The Runyan-Ryan Gas Company of Kendalville, Ind., which operates gas plants in Allegan, Otsego, South Haven, Mich., and the Hoosier cities will remove its main offices to Kalamazoo.

Strong Gas Well Found in Kansas

Another natural gas well has been opened in the southern part of Leavenworth County, near Bonner Springs, Kan., that is said to be providing 6,000,000 feet every twenty-four hours. If this high pressure holds out, arrangements will be made to have the gas turned into the mains that supply Leavenworth, Atchison and St. Joseph.

Second Demonstration Lecture for Use with July Canning Folder

The second of the demonstration lectures prepared by the National Commercial Gas Association, with the help of Mrs. Ida C. Bailey Allen is given here and will soon be offered to the gas companies for use in the National Campaign.

DEMONSTRATION II

I. General remarks on the national crisis, etc., as in Lecture No. I. Lecture No. II on Preserved Fruits as Food. General remarks on food conservation.

II. Bring out the fact that we have reverted to the splendid ways of our grandmothers. Instead, however, of using the sun and hearthfire heat in the drying of the various products, we are accomplishing the same results by a scientific method in the gas oven. The gas costs almost nothing and no special watching is necessary. When the products are once prepared and put in and the heat is propertly regulated, the drying process takes care of itself,—very different from the old days when we sat on the wood-shed roof and waved a branch to keep the flies off the drying corn.

This method is not alone for the country woman; it is for every woman who is able to wear an apron.

Point out that in canning fruits it is not at all necessary to use a syrup, for by the new cold-pack method they will keep quite as well if plain water is used. If it is impossible to buy sugar at the time when the fruits are canned, it may be added when they are to be used.

DEMONSTRATION.

Tomatoes—canned whole.
Canned raspberries.
Currant jelly.
Evaporated berries—any kind.
Recipes in the July folder.

III. Prepare the tomatoes. Explain that where the question of economy of jars must be considered, canning stewed tomatoes is to be preferred to canning the whole fruit. If there is time, show both methods.

Prepare the raspberries and place in two jars, one with syrup and one with water.

Sterilize all jars at the same time, as directed. Take out the raspberries first, as they will be done in 16 minutes.

IV. Explain the recipe for canned corn as you talk about canning in general. Have the class read it over together, as corn is the most difficult of all garden products to can.

If possible also explain the recipe for canned string beans, and bring out the fact that all kinds of string beans may be canned according to this method.

V. Have ready the strained currant juice. While it is boiling, preparatory to adding sugar, test a little of the unboiled and unstrained juice for *pectin*, as directed in the recipe. Explain how the success of the jelly depends upon the presence of the correct quantity of pectin to make it jell. Finish the jelly. It is a good plan to use a candy thermometer, although it is well to show the class the home test, since many women are not able to purchase a candy thermometer.

VI. Whenever there is time, prepare the berries and put them in the oven on the evaporating rack at the temperature directed. It would be a good plan to show a home-made rack for the woman who has not a cent to spend for an extra.

VII. In the meantime, the raspberries should be done. Seal them and test for leakage. Explain about the storage of canned goods in dark, dry places. They will keep their color better if wrapped in newspapers.

Mention the fact that the woman in an apartment can find a place to store canned goods if she is willing to think—in trunks, window boxes, open shelving with dark curtains, etc. Lack of a preserving closet or cellar should not deter her from canning and preserving.

VIII. Seal with paraffin the jelly made during the previous demonstration. Put a tin cover on one glass, and paste brown paper over another. Explain how jelly can be stored in old sugar bowls, handleless cups, etc., to help meet the shortage of glass jars.

IX. Store the evaporated berries in paper bags, twist the necks and paint the bags over with melted paraffin. The evaporation process should not continue until the berries are brittle. When a berry on being cut open and pressed exudes no moisture, it may be considered as properly dried. Label the jars and glasses.

X. Be sure to bring out the fact that complete sterilization is necessary; that the covers should not be lifted off the jars under any circumstances; that the rubbers must be new and of pure *rubber;* that the jars must be free from cracks, and that absolutely no *canning preservatives* should ever be used.

XI. Tell how the evaporated berries may be soaked and stewed like dried apricots, or apples, and used as sauce for a shortcake, in fruit rolls, etc.

Suggest a menu or two in which the canned vegetables and currant jelly may be used.

XII. Answer questions.

NOTE.—*Read* the current magazines and newspapers of the day and keep up-to-the-minute regarding Government movements for food conservation. Always have something new and up-to-date to illustrate your points. Make the women realize that they are a part of the Government's great army of housekeepers who must do the work of feeding the world. It is "up to us women."

Refer to Demonstration I for technical terms and special directions regarding the new methods of canning.

Illuminating Engineering Society Eliminates Dues for Members Called Into Service

At the last meeting of the Council of the Illuminating Engineering Society, it was decided that any Member or Associate Member of the Society in good standing when entering the military or naval service of the United States or any of its allies may, upon request, before Oct. 1, 1917, or if called out after that date, have his name retained upon the membership roll of the Society without payment of dues, during the year ending Sept. 30, 1918.

At this meeting, also, the Council voted to invest $1,000 in United States Liberty Bonds.

Personal Notes

W. F. Croston Dead

W. F. Croston, superintendent of the gas department of the Newport News and Hampton Railway, Gas & Electric Company of Newport News, Va., died recently. Mr. Croston was prominent in the gas industry, and his death will be felt both by the industry and his coworkers in the Newport News company.

R. R. RALSTON of Keokuk, Iowa, succeeds J. J. Kates as commercial agent for the Paducah (Ky.), Light & Power Company, Incorporated.

GEORGE WEHRLE, formerly assistant superintendent of the Denver (Colo.) Gas & Electric Light Com-

pany, has recently been made superintendent of the gas and steam heating departments. W. A. Carter, formerly assistant superintendent of the electric department is now superintendent of that department.

G. G. CRAWFORD, who has been cashier of the Ottumwa (Ia.) Gas Company for the past three years, went to Iowa City to take charge of the office of the Iowa City Light & Power Company.

DAN ROBERTSON, superintendent of the Jantha Light & Fuel Company, Greenville, Ohio, has tendered his resignation. He will be succeeded by Edward Kagey, who has been employed by the company for several years. Mr. Kagey is an experienced man and thoroughly familiar with the business.

FRANK H. EVANS severed his connections with the Wisconsin-Minnesota Light & Power Company July 1. He has had eleven years experience in the light and power business, having spent seven years in the employ of the Public Service Company of New Jersey, at Plainfield, N. J. Mr. Evans has made no plans for the future, but expects to spend sixty days in La Crosse, part of which will be devoted to the first vacation he has enjoyed in a number of years.

W. A. WADSWORTH, formerly with the Union Gas & Electric Company, Cincinnati, O., started July 1 on his new duties as district manager of the Kansas Gas & Electric Company at Wichita. Mr. Wadsworth was engaged in extensive power and lighting work prior to going with the Cincinnati company. H. S. Sladen, formerly assistant manager of the Kansas company, has been made general manager.

Societies and Associations

THE UNITED ENGINEERING SOCIETY held the first meeting of its Engineering Council in the rooms of the American Society of Mechanical Engineers at 2.30 p. m., June 27, 1917. This body is a department of the society and has recently come into existence as a medium of co-operation between the four national engineering societies. The function of the council may perhaps best be described by the following extract from the by-laws of the United Engineering Society: "The Council may speak authoritatively for all member societies on all public questions of a common interest or concern to engineers." The council is composed of twenty-four members, five being appointed by each of the four founder societies and four by the United Engineering Society. Its present membership follows: American Society of Civil Engineers: J. F. Stevens (Chas. Warren Hunt), George F. Swain, F. H. Newell, Alex. C. Humphreys, F. D. Galloway. American Institute of Mining Engineers: P. N. Moore, S. J. Jennings, B. B. Lawrence, J. Parke Channing, Edwin Ludlow. American Society of Mechanical Engineers: I. N. Hollis, Chas. Whiting Baker, John H. Barr, A. M. Greene, Jr., D. S. Jacobus. American Institute of Electrical Engineers: H. W. Buck, E. W. Rice, N. A. Carle, P. Junkersfeld, C. E. Skinner. United Engineering Society: Clemens Herschel, B. B. Thayer, I. E. Moultrop, Calvert Townley. The following officers were elected: President, I. N. Hollis; vice-presidents, H. W. Buck, George F. Swain; secretary, Calvert Townley; executive committee, the four officers named with J. Parke Channing and D. S. Jacobus. The council discussed at length ways and means by which the founder societies through the council may be of use to the nation. The unanimous desire to help the Government in the prosecution of this war resulted in a resolution instructing the executive committee to co-operate with the Government in procuring the services of engineers, also the appointment of a committee of three consisting of Messrs. H. W. Buck, A. M. Greene, Jr. and Edmund B. Kirby, to consider the best means of utilizing the inventive ability of members of the founders societies. The secretary was instructed to inform all Government Bureaus that might be interested in the organization of the Engineering Council of its desire to be of assistance.

Construction Notes

Main Extensions by Los Angeles Company

Franchises have been applied for to place gas mains from Healdsburg to Cloverdale and through Alexander. The main would be about twenty miles long. The Public Service corporation of Los Angeles is the applicant.

Greenfield (Mass.) Company Extensions

The Greenfield Gas Light Company has been granted permission to extend their mains on High Street at Montague City from the residence of J. E. Smith to the residence of Richard Ingham, and on Second Street, Turners Falls, from the residence of C. A. Davis to the Keith block on the corner of Second and Canal Streets.

Main Extensions at Portsmouth, Ohio

John McMillan, manager of the Portsmouth (Ohio) Gas Company, stated recently that two miles of extensions would be put down this summer. "The extensions principally will go to several of the new additions that have recently been plotted."

Laying of Albany Main Let to Contractor

The materials to be used for the new gas main for Riverside Avenue, Albany, N. Y., have arrived and the contract for the excavation work has been let to James J. Rigney. The work of placing the pipe will be delayed for a time, however. The Albany Southern Company has had to place a large force at work on the Broadway viaduct changing its main there owing to construction on the bridge, and for this reason has not the men for the Riverside Avenue job.

Oswego, N. Y., Main Extensions

The People's Gas & Electric Company is laying a new 8-inch gas main in West First St. between Bridge and Oneida, Sts., Oswego, N. Y., and will install new connections along that street. This gives the company an 8-inch main in West First St. from Bridge to Utica Sts.

Natural Gas Main Completed at New Wilson, Okla.

The Consumers Light & Power Company of Ardmore has completed gas mains from the Gypsy oil and gas field north of Ringling to New Wilson, Okla. This town is to be supplied from the principal main extending from the big Gypsy gasser and supplying Ringling, Healdton, Wirt and Ardmore.